Author tshingombe tshitadi

Curriculum assessment:

Title

Strategic Evaluation of Advanced Engineering Systems and Pedagogical Innovation: A Professional Audit of Dr. Tshingombe Fiston Tshitadi

Overview

Dr. Tshitadi's career integrates **electrical engineering**, **security systems**, and **education policy**, with a focus on 4IR readiness, curriculum innovation, and traceable compliance systems that support socio-economic development.

Scope

- **Engineering Systems:** AC/DC theory, transformers, motors, PLCs, SCADA.
- **Security Engineering:** Access control, forensic policing logic, infrastructure integrity.
- **Education Policy:** SAQA/DHET frameworks, NATED pathways, curriculum compliance.
- **Socio-Economic Development:** Parliamentary submissions, rural energy research, youth mentorship.

Abstract

A concise audit of a trajectory from TVET foundations to doctoral systems research. Emphasis on automation, nanotechnology, AI integration, and low-code solutions (VBA UserForms) that enable signal-driven, audit-ready technical education and resilient industrial practice.

Description

- **Academic Path:** NATED N1–N3 (St Peace College) → Master's & Doctorate (Atlantic International University).
- **Technical Competence:** Power systems, motor control, PLC/SCADA, diagnostic engines, DLT for secure records.
- **Research Contributions:** Modular learning signals; autodidactic "Copilote" methodology; innovation & discovery record keeping.
- **Policy Engagement:** Submissions to South African parliamentary portfolio committees on higher education, energy, and rural development.

Keywords

Engineering Systems • Security Integrity • Curriculum Policy • 4IR • PLC • SCADA • VBA • Logigram • Nanotechnology • AI • DLT • Compliance • Audit • Socio-Economic Development

Statement — Delivery Management System

A decentralized ecosystem using **VBA UserForms** and logigram logic to manage: student registration and transcripts; engineering diagnostics and trade readiness simulations; inventory and financial compliance; automated audit sheets and bilingual credential exports.

Information & Communication Skills

- **Technical translation:** Convert engineering detail into policy and compliance language.
- **Academic writing:** Thesis, research papers, portfolios of evidence.
- **Stakeholder engagement:** Parliamentary submissions, institutional correspondence, moderation templates.

Administration & Investigation

- **Administration:** Credential mapping, version control, inventory tracking.
- **Investigation:** Forensic policing logic, CCMA/Labour Court processes, complaint tracking.
- **Governance:** Tender documentation, bid compliance, socio-economic advocacy.

Advantages & Disadvantages

Advantages: modular, audit-ready frameworks; scalable low-code tools; integration of AI and nanotech for resilience. **Disadvantages:** cross-domain complexity; interoperability and standards alignment challenges; need for stronger data governance.

Data Analysis & Visual Basic Logigram

- **Data models:** Complaint → Ruling → Rehabilitation; Credential → Export → Audit.
- **Logigram logic:** Star-Delta motor startup flows, ATM simulation, PLC diagnostics, curriculum signal mapping.
- **Automation:** VBA diagnostic engines, compliance audits, curriculum dashboards and export routines.

Audit Conclusion

The portfolio demonstrates a coherent systems approach linking engineering practice to policy impact. To scale impact, prioritize **standardized schemas**, formal **data governance**, and interoperable interfaces across SAQA/DHET/QCTO and industry partners.

Bibliography (Selected Works)

- *Application Trade Discovery: Job Education Research Methodology, Operational Autodidactic Copilote Distance* (F1000Research, 2025).
- *Career Drawing Total Programming: Analysis, Design, Investigation* (F1000Research, 2025).
- Parliamentary submissions to South African Portfolio Committees (Higher Education, Mineral Resources, Agriculture, 2023).
- Thesis: *Rural Energy, Integrity Science, and Educational Frameworks* (Atlantic International University).
- Technical portfolios: VBA UserForms for diagnostics, compliance, and curriculum management.

I can convert this profile into a polished infographic- style HTML report with interactive charts and a timeline using the thematic percentages and competency matrix already outlined; reply **Yes** to proceed or specify any data points you want included.

Career Education Didactic Report

Author: Tshingombe Tshitadi Theme: Curriculum Assessment in Trade & Engineering Education

🕮 Overview

This report examines the integration of career education materials, award certificates, diplomas, prizes, and innovative didactic systems within trade and engineering education. It emphasizes curriculum assessment, learner evaluation, and audit-ready documentation.

Scope

- Trade and engineering education at advanced levels
- Credentialing systems: certificates, diplomas, prizes
- Didactic materials: quizzes, evaluation rubrics, learner dashboards
- Innovation and invention recognition in wholesaler and technical contexts

Abstract

Career education thrives when didactic rigor, credentialing, and innovation are combined. This report explores curriculum assessment frameworks, management systems, and audit principles to ensure transparent learner recognition and sustainable educational reform.

Purpose

- To evaluate career education materials and credentialing systems
- To design audit-ready certificates and diplomas
- To integrate innovation and invention into trade wholesaler education
- To establish transparent quiz and mark evaluation systems

Keywords

Career education, didactic report, award certificate, diploma, prize, innovation, invention, trade engineering, wholesaler, quiz, evaluation, curriculum assessment, audit, management system.

Description

The report describes how career education materials can be structured into audit-ready frameworks, ensuring learners receive visible recognition through certificates, diplomas, and prizes. It highlights innovation in trade engineering and wholesaler systems.

Problematic

- Lack of standardized credentialing across trade education
- Limited recognition of innovation and invention in curricula
- Inconsistent evaluation methods and mark allocation
- Weak audit systems for compliance and transparency

Statement Report

This report asserts that career education must integrate didactic rigor, credentialing, and innovation recognition to empower learners and align with regulatory frameworks.

Management System Information

- Learner dashboards for progress tracking
- Digital credentialing systems (badges, certificates, transcripts)
- Audit-ready documentation aligned with councils and authorities

Principle Investigation

- Alignment of curriculum with regulatory standards
- Evaluation of innovation in trade wholesaler education
- Transparency in quiz and mark evaluation systems

Method Research

- Comparative analysis of credentialing frameworks
- Case studies of trade engineering education
- Surveys of learner and educator experiences
- Audit of management systems for compliance

✓ Advantages

- Transparent credentialing and recognition
- Motivation through prizes and innovation awards
- Audit-ready documentation for compliance
- Learner empowerment via gamified dashboards

✗ Disadvantages

- High administrative burden for audit systems
- Risk of over-standardization limiting creativity
- Resource-intensive management systems

Management System Information (Expanded)

- Integration of LMS with credentialing dashboards
- Automated quiz banks and evaluation rubrics
- Secure audit trails for certificates and diplomas

Conclusion

Career education in trade and engineering requires a balance of didactic rigor, credentialing, and innovation recognition. Audit-ready systems ensure transparency, while prizes and certificates motivate learners to achieve and invent.

Audit

- Verification of certificate and diploma authenticity
- Compliance with national and international councils
- Continuous monitoring of learner progress and evaluation systems

Bibliographic (Sample References)

- Council on Higher Education (CHE) guidelines
- Engineering Council of South Africa (ECSA) standards
- UNESCO TVET frameworks
- International Journal of Technical Education & Training

This structure gives you a **complete academic-style report** that can be adapted into curriculum assessment documentation, certificate design, or audit frameworks.

Would you like me to **expand this into a polished certificate/diploma template** (with placeholders for learner details, marks, and achievements), or into a **sample quiz bank with evaluation rubrics** to demonstrate the assessment system? Both would make this report more tangible.

Table of Contents

Title 3

Overview 3

Scope 3

Abstract 3

Description 3

Keywords 3

Statement — Delivery Management System 4

Information & Communication Skills 4

Administration & Investigation 4

Advantages & Disadvantages 4

Data Analysis & Visual Basic Logigram 4

Audit Conclusion 4

Bibliography (Selected Works) 4

Career Education Didactic Report 5

📖 Overview 5

📚 Scope 5

📝 Abstract 5

🎯 Purpose 6

🔑 Keywords 6

📄 Description 6

⚠ Problematic 6

📑 Statement Report 6

📋 Management System Information 6

🔍 Principle Investigation 6

Method Research 7

✓ Advantages 7
✗ Disadvantages 7
Management System Information (Expanded) 7
Conclusion 7
Audit 7
Bibliographic (Sample References) 7

Based on 19 sources

Entity or Institution	Program or Course Title	Qualification or Level	Status or Result	Key Topics or Modules	Assessment Type	Duration or Timeframe	Source
Atlantic International University (AIU)	Master's in Artificial General Intelligence and Social Sciences	Master's Degree	Admission Ready / Accepted	Introduction to AGI, AGI and Human Cognition, Ethical Considerations, Economic Implications, Social Impact	Examination project	2025	[1]
Atlantic International University (AIU)	Doctorate in Specialist Engineering Infrastructure and Contractors: Electrical Engineering	Doctorate	Active / Course Offering	Advanced Power System Analysis, Renewable Energy Systems, Smart Grids, IoT, Construction and Civil Engineering Integration	Dissertation Project / AI Program Generator	Actionable Date: 11/22/2024	[1, 2]
Atlantic International University (AIU)	Master in Modern Power and Energy Systems	Master's Degree	Active / Course Offering	Energy System Integration, Wind and Solar Thermal Engineering, Power	Thesis Proposal (MBM300) / Core Courses	Not in source	[1, 2]

				Electronics, A.I. in Energy Systems, Economic Decision Making			
Atlantic International University (AIU)	Master of Renewable Energy (MS)	MS / BS Options	Active / Offerings Mentioned	Solar Thermal Energy, Solar Photovoltaics, Global Change, Bioenergy, Geothermal Energy, Hydroelectricity, Tidal Power	Orientation Courses (Resume, Portfolio, Autobiography)	Not in source	[2]
Atlantic International University (AIU)	Engineering Electrical Master	Master of Science in Electrical Engineering (MSEE)	Not in source	Electrostatics, Electrodynamics, Electromagnetic, Power Systems Stability, Quantum Mechanics	Practical and Theoretical Tests, Experimental Log, Questionnaires	Not in source	[3]
Atlantic International University (AIU)	Master's in Curriculum Development	Master's Degree	Course Offering	Curriculum Theory and Design, Instructional Strategies for Diverse Learners, Technology Integration in Education	Thesis Defense	Not in source	[1]
Atlantic International University (AIU)	Doctorate in Strategic Leadership	Doctorate	Course Offering	Organizational Behavior, Strategic Planning, Leadership Theory and Practice, Risk Management	Capstone Project	Not in source	[1]
Atlantic International University (AIU)	Postdoctoral in Behavior Analysis in	Postdoctoral	Course Offering	Advanced Applied Behavior Analysis	Not in source	Not in source	[1]

	Special Education			(ABA), Behavioral Interventions for ASD, Educational Psychology			
DHET / SAQA / Shalom Technical College	Electrical Trade Theory N3	N3 / NATED	Failed / Under investigation (Alleged irregularity)	Electrical Trade Theory	National Examination	November 2021 / 2023	[1, 3]
DHET / SAQA	National Diploma in Electrical Engineering	NQF Level 6 (360 Credits)	In progress / Pending Documents	Electrical Trade Theory, Electrotechnology, Industrial Electronics, Maintenance, Technical Drawing, Component Testing	ICASS and External Examinations	18 months	[4-6]
SAQA	National Qualifications Framework (NQF)	Level 1-10	Regulatory Compliance	Qualification standardisation, Recognition of Prior Learning (RPL)	Accreditation and Evaluation	2020-2025	[3]
Alison	Diploma in Electrical Studies	Diploma / CPD	11% - 12% Complete	Electrical wiring systems, electrical trade significance, hazards, circuit analysis	Course assessment / Summative	10–15 hours	[1, 3, 4]
Alison	Electrical Engineering - Electrical Transformer Components	Certificate / Diploma	86% Complete	Electrical Measuring Instrumentation, Wiring Systems, Transformer Components, Buchholz relay, oil level measurement	Multiple Choice / Online Topic Assessment	6-15 hours	[4, 7]
Alison	ISO 37301:2021	Diploma (CPD)	91% Score	Compliance management	Summative	Awarded 18	[3]

	Principles of Compliance Management System			system principles		January 2024	
Alison	Numerical Reasoning Test	Aptitude Test / Beginner Level	14% Score / Percentile	Numeracy, Data interpretation, Problem-solving	Numerical Reasoning Test	1 minute	[4, 7]
Alison	Verbal Reasoning Test	Aptitude Test / Beginner Level	3/16 Score (6th Percentile)	Vocabulary, Grammar, Reading comprehension, Literacy	Aptitude Test	Not in source	[4, 7]
Alison	Abstract Reasoning Test	Aptitude Test / Intermediate Level	5/8 Patterns, 3/8 Lateral thinking	Pattern Recognition, Trends Analysis, Critical Thinking	Aptitude Test	Not in source	[7]
Alison	Diploma in MS Project for Civil Engineering	Diploma	94% Score	MS Project for Civil Engineering	Not in source	Not in source	[3]
Alison	Security Guard & CCTV Monitoring	Diploma	92% Score	Security and Monitoring	Not in source	Not in source	[3]
SQA (Scottish Qualifications Authority)	National 4 Skills for Work Engineering Skills	SCQF Level 4 (24 Credits)	Valid from August 2013	Mechanical, Electrical/Electronic, Fabrication, Manufacture and Assembly	Checklists, learner review sheets, Assessment Support Packs (ASPs)	October 2018 (Version 3.0)	[4, 8]
SQA	Fundamentals of Control Systems and Transducers	SCQF Level 7	Not in source	Transducer functionality, control systems design	Written assessment (2 hours) and laboratory assignment (2 hours)	Not in source	[4]
SQA	High Level Engineering	SCQF Level 7 (8	Not in source	Software engineering	Logbook, portfolio,	Not in source	[4]

	Software	Credits)		concepts, I/O programs, linear programs, iterative loop statements	and programming projects		
St Peace College	National Certificate (N1, N2, N3)	N1-N3	Available for enrollment	Mathematics, Electrotech, Logic, Industrial study, Electricity, Electronics, Electromagnetic Engineering	Practical and Theoretical	Full-time study	[5]
St Peace College	N2 Electrical Trade Theory	N2	Lecturer guidance documentation	DHET, SAQA, QCTO scope, Electrical theory	Formative and Summative (ICASS/ISAT)	10 Week Plan	[5, 6]
St Peace College	Electrician Trade Practical Manual	NSQF Level 5 / Modules 1-4	Completed Portion	Digital logic, Control Panel Wiring, AC/DC Motor Drives, Inverters and UPS	Portfolio-Based / Formative Assessment	400 Hours Total	[7, 9]
Microsoft / Microsoft Learn	Data Science / Azure Administration / AI Search	Badge	Completed May 2024	Azure Data Science (DP-100), Azure Administrator (AZ-104), Form Recognizer / Cognitive Search	Not in source	Completed May 2024	[8]
Sci-Bono Discovery Centre	ICT & Technical Skills / Career Development	Youth Training	Completed / Refined Framework	IT Skills, Career guidance, Study skills, Time management, Job search, Work readiness	Psychometric, Formative, and Portfolio-Based Assessments	Not in source	[1, 3, 4, 7]
National Science Foundation (NSF)	SBIR/STTR Phase I Program / I-Corps Teams	Grant Proposal / Project Pitch	Declined	Energy Technologies, Advanced Manufacturing, Scalable	Executive Summary Review / Project Pitch	Dec 2024 - Aug 2025	[7]

				Analytics	Evaluation		
QCTO	Trade Electrical Engineering	N4 / Level 5	Final Verification	Trade theory electrical	Final Verification Meeting	2023-06-01	[6]
ECSA	Candidate Engineering Technician	National Diploma	Application Incomplete	Registration as candidate	Registration application	2023-05-23	[6]
Metropolitan Police Service	Police Community Support Officer (PCSO) Training	PCSO Entry	Course Offering	Radio procedures, effective patrol, Evidence gathering, Managing a crime scene	Selection Assessment Day / Emergency training test	10 weeks	[1]
NYU School of Law	Policing Protests to Protect Constitutional Rights	Policy Guide	Published Report	First Amendment rights, De-escalation, Crowd management, Use of force, Mass surveillance bans	Scenario-based training simulation	Not in source	[10]
Schneider Electric South Africa	PLC Training (Programmable Logic Controllers)	Technical Competency	Not in source	PLC fundamentals, Modicon ranges, Industrial automation, Troubleshooting	Training assessment programs	On-site and e-learning	[3]
International Electrotechnical Commission	IEC 62368-1:2024 Masterclass	Masterclass	Quote reference (350.00 CHF)	IEC 62368-1 safety standards for audio/video, information and communication technology	Not in source	2024-09-20	[11]
IESSA	2-Day Course on Design of High-Rise Buildings	2.00 Credits	Pre-Validated	Refresher courses	CPD Activities	20.00 Notional Hours	[12]
Atlantic International University	Geotechnical Engineering	Certificate of Participatio	Participated	Geotechnical engineering principles,	Live class participation	October 2023	[3, 4]

(AIU)	/ Montessori Education	n		Montessori Education			
Not in source	Adv Cert: Educ: Technical Education	NQF Level 6	Obtained 10/11/2020	Panel wiring	Formal Education	Obtained 10/11/2020	[12]
Licensed Electrician's Assessment	Apprenticeship Assessment Category (LEA)	Apprenticeship	Passing assessment required	LET (Theory), LEP (Practice), Wiring a meter box, switchboard	15 minute practical/theory tests	Not in source	[5]
DHET	Engineering Studies N1-N6	National Diploma / N1-N3	Phase-Out / 3 month records	Theory, Experimental, Practical	Portfolio of Evidence (PoE)	Last enrollment: 31/12/2023	[4, 5]
SARS Talent Acquisition / Psychometric Unit	Various Roles (Audit, Debt, Manager, Legal)	Not in source	Applications Received / Under Review	Audit, Compliance, Digital Fraud, HR, Legal Delivery	Job Application / Psychometric assessment	Nov 2023	[12]
New Zealand Defence Force (NZDF)	Military Application	Not in source	Application Received	Not in source	Job Application	30 November 2023	[12]
Eaton Talent Acquisition Team	Engineering and Project Management Roles	Not in source	In review	Field Service, Project Management	Job Application	01 December 2023	[12]
UNIVERSITÉ De Kinshasa UNIKIN	Engineering	Certificate	Not in source	Engineering electrical	Not in source	Oct 2020 - Jan 2023	[12]
SAPS	Preparation Exercise Programme	Not in source	Not in source	Physical fitness, stamina, upper body strength	Physical Fitness Assessments	11 Days	[12]

[1] thesis atlantic circulum final build Request an intellectual property (IP) licence _ Metropolitan Police.pdf
[2] Atlantic International University(4).docx
[3] Proposal of thesis content 2 final research(3).docx

[4] Career center final rwiten scie bono dhet nated , peace tshingombe faciltator note(1).pdf na.docx final(4).docx
[5] New Note
[6] zaire exam papper final exam n1,n2,n3,n4n5,n6 dhet ,, saqa finalForeign institutions inquiries.docx
[7] research fund science ,, skill research ,, .tshingombe note methode(1).docx
[8] form microsoft experimental thesis atlantic ....pdf
[9] CAREER 26 education whole saler trade advanced engineering FREELANCE EDUCATION MONTESORY.docx2.pdf.docx
[10] POLICING project tshing.docx
[11] IEC Masterclass Quote for Tshingombe Tshitadi
[12] zaire jobMy Candidate Profile.docx

Based on 24 sources

Domain	Certification or Standard	Governing Authority	Technical Specifications	Assessment Outcome	Project Reference	Source
Electrical Engineering	NATED (N1-N6) / National N Diploma	DHET, SAQA, QCTO	360 Credits; NQF Level 6; Duration 18 months theory + 18-24 months practical experience; Subjects include Electrotechnics, Industrial Electronics, Mathematics, and Engineering Science	ICASS (40%) and Final Exam/EISA (60%); Minimum pass mark 40%; Validated qualification with audit-ready certificates	SAQA ID: 90674 / 111285; Report 191; Syllabus 2021	[1-8]
Security & Defense	MIL-STD-11991B	U.S. Department of Defense (DoD)	Requirements for Managing Parts, Materials, and Processes (PM&P); Prohibits selenium rectifiers, PVC, and magnesium alloys;	Audit-ready compliance; Certificate of Conformance (C of C) required; DPA/PIND categories A-C; ESD protection	Operation GENIAC; GENIE CORP; US Military Standard for Engineering Parts	[1, 2, 4, 9-12]

			Mandated gold plating for connectors; Derating and counterfeit prevention			
Security & Defense	MIL-STD-810H	U.S. Department of Defense (ATEC Lead)	Environmental engineering laboratory tests including temperature (0 to 100∘C), moisture, salt fog, vibration, and shock; Tailored tests: Method 501.7, 502.7, 514.8	Verification of system integrity in extreme conditions; Deficiency detection in design and manufacturing	Operation GENIAC Safety Validation; Tshingombe Tshitadi Fiston Engineering Archive	[1, 9-12]
ICT / Artificial Intelligence	Microsoft Certified: Azure AI Engineer Associate	Microsoft	Intermediate level; AI solution design; Knowledge mining (Azure AI Search), AI Agents (Azure AI Foundry), NLP, OpenAI implementation, and Generative AI	Passed (Score: 100%); 6 milestones completed; Requires renewal every 12 months	Milestone 6; Microsoft Learn AI Skills Challenge; Develop AI Solutions with Azure engineering dATABASE (4)	[1, 2, 9, 10, 13, 14]
Industrial Automation	EcoStruxure Building Expert	Schneider Electric	BMS for buildings <10,000 m2; Supports Modbus, ZigBee, BACnet/IP; Networked smart systems	ROI optimization and operational control validation; Digital micro-credentials awarded	Project-29	[1, 3, 4, 9, 14]
Electrical / Industrial	SANS 10142-1 (SABS 10142)	SABS / ECB	Wiring of premises; Installation rules for single-phase (230-240V) and	Issuance of Certificate of Compliance (CoC)	S.E.E.E.I.S.U.A. / City Power Refurbishment	[1-3, 5, 10]

			three-phase (400-415V) systems; Max permissible voltage drop 5% (11.5V)			
Security & Safety	PSIRA Grade A-E	PSIRA	Statutory minimum training standards per Act 56 of 2001; Asset protection, firearm competency, and conflict de-escalation	Registered Security Service Provider status; Mandatory PSI or clearance for ex-military/police	Case JR 2461/15; Case ID: #120881280; CCMA, PSiRA, and SAPS: A Regulatory Nexus	[1-3, 6, 10, 14, 15]
Engineering & Compliance	MIL-STD-100G	U.S. Department of Defense (DoD)	Standard Practice for Engineering Drawings; Works with ASME Y14.100M; Digital formats: IGES, Raster, SGML	Mandatory for DoD procurement; Requires CAGE code and PIN numbering; Revision block control	ADA361444	[1, 9, 12]
ICT / Electronics	IEC 62368-1:2024	IEC	Hazard-based safety standard for audio/video, information, and communication technology equipment; Rated voltages ≤600V	Testing for ES1, ES2, ES3 energy source classifications	IEC 62368-1:2024	[1, 9]
Legal / Labour Relations	CCMA / Labour Court Dispute	CCMA / Labour Court of South Africa	Arbitration process per Labour Relations Act; Unfair dismissal dispute; Referral outside	Application for leave to appeal dismissed; Case struck off due to procedural failure	Case JR 2461/15; Case GAjb6808-15; Tshingombe vs Nogata Security Services	[2-4, 10, 16]

			30-day limit	(applicant absence)		
Cybersecurity	CISSP-ISSMP / SSCP	(ISC)²	Security Strategy, Risk Management, Access Controls (15%), and Cryptography	Formal assessment against Common Body of Knowledge (CBK)	Manager ICT Security Portfolio	[2]
Electrical Engineering	SQA Advanced Certificate/Diploma	SQA	SCQF Level 7 (Certificate) and Level 8 (Diploma); Includes DC/AC principles and Star/Delta analysis	Graded Unit 1 (Examination) and Graded Unit 2 (Project)	NextGen: HN Electrical Engineering Principles	[2]
Industrial Control	TeSys T LTMR Controller	Schneider Electric	Current phase imbalance 10-70%; Long start trip 100-800% FLC; Overvoltage alarm 101-115%	Schneider Electrical License granted for trade application	Project-29 Untitled (R 261,204.87)	[2, 10]
ICT / Education	Google Classroom Fundamentals	Google / St Peace College	Digital classroom management and learning tools	Certificate of Completion; Issued Oct 26, 2023	Certificate ID: 2802Bly71CB-C243B14240	[17, 18]
Cyber Security	ISC Certification / Firewall Management	GitLab / Microsoft	Proactive resilience; SAST (Static Application Security Testing), DAST, and Secret Detection	Push Protection active; SAST not enabled in current runner version 2.327.1	tshingombe OPGENIAC TBRIGADE	[4, 14]
Security / Public Safety	National Diploma in Policing	SAQA / African Policing Institute	NQF Level 6; Focus on solving crime and counter-terrorism	Formal qualification award	Police Academy / St Peace College	[7, 9, 15]

			protocols			
Information Systems	Google NotebookLM Fundamentals	Google / KLM Learning	Proficiency in AI-assisted research, source grounding, and notebook management	Successfully completed (Dec 12, 2025)	Credentialed Engineering Framework and Technical Documentation Automation	[19, 20]
Vocational Education	Trade Test / Engineering Didactics	ECSA / QCTO	Modular randomized question sets; 2 hours for trade skill introduction; 2 hours for PPE	Weighted rubrics ensuring transparency; Pass/fail audit flags	Career Education Didactic Report	[8, 19, 20]
Corporate Training	Eaton / Microsoft Technical Tracks	Eaton / Microsoft Corporation	Cloud computing (Azure), data management, and industrial power standards	Digital badges and certificates	Global engineering career exhibition outcome review	[15, 20]
ICT / Software Development	Software Ecosystem / GitLab Repository	Self-Governed / NSF	943 modules tracked; 756.63 hours of training; logic-based 'Logger Flow'	Audit-ready logs; 100% verifiable transcripts	GitLab Software Repositories / National Science Foundation Pitch	[11, 15]
Energy Management / ICT	EcoStruxure Training Portfolio	Schneider Electric	140 online courses; Curriculum includes AI and machine learning	Training actively in progress; Digital micro-credentials	Schneider Electric Dashboard / 140 Course Portal	[6, 8]
Security & Defense	MIL-STD-202G	Department of Defense (DoD)	Test methods for electronic and electrical component parts; Method 310 Contact Chatter; Thermal Shock (Liquid)	Pass/Fail based on momentary opening/closing durations	Method 107G	[1, 9]
Corporate Training - Eaton	xSpider 3.9.1 Manual	Eaton	Power distribution and low-voltage	Technical proficiency in distribution	Not in source	[1]

			switchgear design	board specs		
Mechanical / Electronics	IPC 2220 / 6010 Series	IPC	Class 3 reliability for aerospace/defense PWBs	Not in source	N6 Advanced Electrical Engineering	[9]
Civil / Facilities	MIL-STD-3007F	Department of Defense (DoD)	Standard for Unified Facilities Criteria (UFC)	Not in source	MIL-STD-3007F	[9]

[1] career 38 Request an intellectual property (IP) licence _ Metropolitan Police.pdf
[2] CAREER 26 education whole saler trade 28 advanced engineering ,, educ didact deliver , mark , braill , award financial FREELANCE EDUCATION MONTESORY.docx2.pdf.docx 3.docx
[3] Auditable_Engineering_Career__From_Diploma_to_AI.m4a
[4] Engineering_battles_bureaucracy_and_broken_systems.m4a
[5] career 29 education materiaux didactic report award certificate prize archfile assessent.docx
[6] A_Career_in_Documents(1).mp4
[7] A_Career_in_Documents(2).mp4
[8] The_Explainer.mp4
[9] FormSubmission-request-ip-licencemip-664-25-0100-000.pdf
[10] CAREER 36 EDUCATION ACADEMIC SECURIRTY SAFETY POLICY ENGINEERING TECHNICAL VS POLICY COMPAGNY REGULATORY FRAMEWORK EDUCATIN MANAGEMNT SYSTEM(1).pdf
[11] A_Digital_Paper_Trail.mp4
[12] CAREER 26 education whole saler trade 27 advanced engineering FREELANCE EDUCATION MONTESORY.docx2.pdf.docx
[13] Copilot_20251211_140800.png
[14] CAREER 36 EDUCATION ACADEMIC SECURIRTY SAFETY POLICY ENGINEERING TECHNICAL VS POLICY COMPAGNY REGULATORY FRAMEWORK EDUCATIN MANAGEMNT SYSTEM.docx
[15] Extraordinary_Ambition.mp4
[16] tshingombe tshitadi engineering and education technology engineering.pdf
[17] Gemini_Generated_Image_xoh7uuxoh7uuxoh7.png
[18] tshingombe tshitadi engineering and education technology engineering.pdf
[19] CAREER 37 EDUC DIDACTIC(1).pdf
[20] CAREER 37 EDUC DIDACTIC.docxheet

Based on 44 sources

Module	Description	Technical Specifications	System Logic (Inferred)	NQF/SAQA Alignment	Source
S.E.E.E.I.S.U.A Framework	Integrated research and implementation	Strategic, Economic, Environmental, Engineering, Institutional, Social, Utility, and Asset management pillars; MIL-	Synchronizes educational phases with industrial	NQF 1-3; QCTO NATED; Direct	[1-3]

	framework for engineering assessments, infrastructure resilience, and energy-efficient systems.	STD-810H and MIL-STD-461G compliance.	workforce demands, military-grade ruggedization, and municipality energy sustainability goals.	alignment with NQF Level 6 National N-Diploma and ECSA standards.	
Organigram / Organisational Theory	Hierarchy mapping and documentation system for institutional approval, personnel management, and project control.	Role-based task allocation; Documentation size; Store career control; Geospatial integration (GIS); Hierarchical student levels (1-12).	Organizes hierarchy and institutional documentation to provide a structured physical architecture for reporting and infrastructure lifecycle management.	Mapped to NQF Levels 1-8; N4-N6 Industrial Orientation; SAQA/DHET standards for institutional management.	[1-8]
Logigram / Algorigram	Conceptual design and flowchart-based logic for algorithmic processes, system behavior, and decision-making.	Binary, Hexadecimal, and Octal systems; Bitwise operators (NOT, OR, AND, XOR); SNR thresholding; Fourier Series and d2y/dt2 linearity checks.	Defines the logical sequence of operations and translates complex industrial processes into binary decision paths for software implementation.	Relates to Mathematical Literacy, Information Technology, and Engineering Drawing (SAQA ID: 90674).	[1, 3-11]
Visual Basic Automation (VBA/VB.NET)	Automation of database management, credential validation, and electrical system design calculations.	Integration with MS Access, SQL serverless pools, and Visual Studio; VBA variables (Service, Pin, Balance); Event handlers for GUI objects.	Automates repetitive tasks in reporting, validation of certifications for regulatory compliance, and calculation-driven	Applied to Engineering Design and Information System Management; NCV Level 4; NQF Level 6 Credits 360.	[1, 3-8, 12, 13]

			engineering processes.		
Energy Metering & Indexing	Calibration and measurement of energy consumption for industrial, residential, and grid applications.	Class 0.2/0.5 static meters; Energy indexing in kWh; Analog output channels (4-20mA); IEC 62053-22 and DLMS/COSEM compliance.	Provides precise energy consumption data through integral calculus ($E=\int P(t)dt$) for grid management, billing, and efficiency audits.	Aligned with Electrical Trade Theory, SABS/SANS 10142 standards, and NATED Report 191.	[2, 4-8, 14]
Circuit Analysis & Electrotechnics	Comprehensive analysis of AC/DC circuits, network parameters, and electromagnetic induction.	Thevenin equivalent (V_{th}, R_{th}); Kirchhoff's Laws (KVL/KCL); Fourier and Laplace transforms; Impedance $Z=R2+(XL-XC)2$.	Applies mathematical models to physical electrical systems to ensure stability and efficiency in power transmission and frequency filtering.	NQF Level 5/6; Nated N1-N6; National N Diploma in Engineering Studies (SAQA ID: 111285).	[1, 4-7, 9, 15, 16]
Programmable Logic Controllers (PLC)	Industrial automation control and communication interface for machine and process segments.	Schneider Electric Modicon M340; Max 512 discrete/128 analog I/O; IP Address 10.126.224.221; 24V regulated power supply.	Acts as the central processing unit for hardware orchestration and facilitates direct digital control of industrial hardware via network commands.	National N Studies; Electrical Engineering professional council (ECSA) registration.	[4, 7, 8]
Thermoelectric Control (TEC)	Management of Peltier cooling elements for	Coefficient of Performance ($COP=Q_C/P_{el}$); PWM control (1kHz to 255kHz); Temperature sensing (PT-	Regulates heat exchange to maintain optimal	Part of Engineering Systems and	[4]

	laser diodes and scientific instruments.	100/NTC).	operating temperatures for sensitive electronic components.	Advanced Power Electronics modules.	
Robotic Process Automation (RPA)	Integration of software bots to streamline repetitive tasks in electrical and electrochemical engineering.	Tools: UiPath, Automation Anywhere, Blue Prism; Python backend integration for signal acquisition.	Offloads data entry and diagnostic reporting from human operators to software agents to reduce error rates.	Aligned with 4IR technical training benchmarks for Industry 4.0.	[5]
Renewable Energies / Photovoltaic	Integration of solar, wind, and alternative energy systems into the grid framework.	50W Solar Home Systems (SHS); Production 0.3 to 0.4 kWh/day; 10-year lifespan recycling materials.	Developing sustainable off-grid solutions to mitigate load shedding and improve rural electrification rates.	NQF Level 5 (Engineering Studies N4-N6).	[8, 14]
Industrial Electronics / Fault Finding	Systematic diagnosis of electrical system failures and semiconductor device analysis.	Fault current I=V/Z; Voltage divider bias $V_B = R1 + R2 \quad R2 \times VC$ C ; Diode equation Is ×(eqV/kT−1).	Uses evidence-based scientific approaches and Boolean algebra to isolate hardware malfunctions and prevent breakdowns.	Mathematics N4; NATED Fault Finding and Protective Devices N4.	[1]
Collision Scenario Engine	Advanced modeling tool for impact, response protocols, and investigation simulation.	Derived from CAD/CAE software; utilizes RRT (Rapidly-exploring Random Tree) algorithms for path/avoidance simulation.	Predictive modeling environment used to simulate failures in power transformers to develop	NQF Level 6/8 research and doctoral-level design.	[3]

			safety and repair protocols.		
PHP Crime Management	Web-based interface for reporting and tracking incidents within the infrastructure context.	PHP; session_start(); MySQL integration; XAMPP Server; client-server architecture.	Provides a collaborative platform for data entry and retrieval within a public administration or safety framework.	Applied Policing and Crime Resolution; SAQA descriptors.	[7]
Control Systems and Transducers	Monitoring and feedback mechanisms for dynamic systems using physical signal converters.	Resonance frequency f0 =1/(2πLC); System output =∫Input Function dt; Potentiometer resolution percentage.	Integrates mathematical derivations to analyze real-time rates of change in automated control loops.	SQA Advanced Unit HT1R 47 (SCQF Level 7); DHET NATED N5.	[1]
GENIE POLICE / SECURITY / SAFETY	Regulatory enforcement and safety assurance logic for municipal and industrial compliance.	Programmable logic for load limits; biometric/digital safeguards; fault detection matrices.	A governance subsystem designed to monitor and enforce technical thresholds for electricity consumption and site access.	Compliance with PSIRA and SASSETA training standards.	[3]

[1] 417959_Career center final rwiten scie bono dhet nated , peace tshingombe faciltator note(1).pdf na.docx final.docx
[2] Career Education Didactic Report.docx
[3] CAREER 36 EDUCATION ACADEMIC SECURIRTY SAFETY POLICY ENGINEERING TECHNICAL VS POLICY COMPAGNY REGULATORY FRAMEWORK EDUCATIN MANAGEMNT SYSTEM.docx
[4] 173423_course ciriculum total course thesis alumine(1).docx
[5] career drawin nated Request an intellectual property (IP) licence _ Metropolitan Police.pdf
[6] 278582_thesi project book , final engineerin tshingombe , time table allocation job cost.docx
[7] Doc12 design analyse investigate engineering tshingombe(6).pdf
[8] 359173_Proposal of thesis content 2 final research(1).docx
[9] drawing note total assessment energy rural,-4.pdf
[10] Engineering_Education_Blueprint.pdf

[11] career 15 application trade education orientation guide education actuary and methode research library join.pdf
[12] Unified_Career_Ledger_Architecting_SA_Skills.pdf
[13] form total career integration , module class worsheet total 99230000.pdf education info code.pdf
[14] careee 30 tshingombe.pdf
[15] South_Africa_Energy_Engineering_Framework.pdf
[16] drawing note energy rural . discovery project-1.pdf
Based on 20 sources

Project or Qualification Title	Organization or Institution	Scope and Module Details	SAQA ID or Reference	Level and Credits	Implementation Phase or Status	Source
National N Diploma: Engineering Studies (Electrical Engineering)	DHET / SAQA / St Peace College	Comprehensive curriculum (N1–N6) including Mathematics, Industrial Electronics, Engineering Science, Electrotechnics, and Power Machines; requires 18–24 months practical experience.	90674 / 111285 / 66994	NQF Level 6, 360 Credits	Completed / In Progress / Under Investigation	[1], [2], [3], [4], [5, 6], [7], [8], [9], [10]
National Certificate: Electrical Engineering (N1–N3)	St Peace College / DHET / Umalusi	Mathematics, Industrial Electronics, Engineering Science, Electrical Trade Theory, and Engineering Drawing.	67109 (N1), 67375 (N2), 67491 (N3)	NQF Levels 2–4 (SAQA) / N1–N3 levels	Completed / 3 months duration	[1], [11], [3], [6], [9]
National Certificate: Electrical Engineering (N4–N6)	DHET / Umalusi / St Peace College	Mathematics, Industrial Electronics, Engineering Science, and Electrotechnics.	66881 (N4), 66960 (N5), 67005 (N6)	NQF Levels 4–6	Completed / 3 months duration	[11], [3], [10]
Doctorate in Electrical	Atlantic International	Advanced Electromagnetic Theory, Digital	MBM900 / MBM902	Doctoral Degree (15,000	Research Phase	[2]

Engineering	University (AIU)	Signal Processing, Control Systems, Power Systems, VLSI Design, and Machine Learning.		words dissertation)		
Master of Science / Engineering Systems in Electrical Engineering	Atlantic International University (AIU)	Power System Stability, Rural Energy Distribution, Control Systems, and Cyber-Physical Systems; includes thesis on national qualification frameworks.	MBM302 / Ref: 00095759	Master's Degree (Level 9)	Thesis Accepted / Active	[4], [6], [7], [10], [12]
Lutz Cable Project (88kV / 132kV)	City Power Johannesburg / Eskom	Construction of 88kV/132kV double circuit cable supply between Dalkeith and Lutz Substations; 2500mm2 Aluminium XLPE cables and fibre optic installation.	REVCP_TSSPEC_153 / Tender Dalkeith-Lutz	88kV / 132kV System	Tender / Construction Phase	[Section 1.1-1.4 Lutz SHER], [11], [2034, 4229, 413.1]
Professional Engineering Registration	Engineering Council of South Africa (ECSA)	Registration as Candidate or Professional Engineering Technologist/Technician based on N Diploma and professional standards.	CRM: 0041309	NQF Level 8 (Honours) / Level 9 (Master's)	Application submitted / Under review	[3], [7, 13], [10]
Panel Wiring and Control Training	St Peace College / QCTO / Merseta / CHIETA	Training in DB boxes, outlet sockets, switches, DOL motors, and transformer training; construction and maintenance of	Not in source	NQF Level 2	In progress / Trade Test Readiness	[1], [11], [3]

		control panels.				
Transformer Rewinding Experimental	St Peace College / City Power	Experimental dismantling of core, un-rewinding secondary, determining wire thickness, and testing winding with insulating varnish.	Not in source	Experimental / 1000 turns	Experimental testing phase	[1], [11], [3]
Assessment of Existing Electricians Trade Test Panels	City Power Johannesburg	Evaluation of existing trade test modular panels and proposal for latest modular updates at the Learning Academy.	Not in source	Technical Functionality Threshold 80%	Request for Quotation (RFQ)	[11], [3], [City Power RFQ 2015]
Supply of Electricity to Rural Households (SHS Project)	NSF / Dept of Energy / Eskom / City Power	Deployment of 50-watt solar home systems (SHS), mini-hydroelectric systems, and battery storage for 10,000 households.	NSF Pitch #00110596 / Ref: 1579995	Budget: $4,000,000 / R550,000	Proposal Phase	[13], [8], [9], [10]
Occupational Certificate: Electrician	SAQA / Eskom / Mining / Metal Industries	Plan, prepare, install, maintain, commission and fault find equipment in construction, energy, and mining sectors.	Not in source	NQF Level 4, 317 Credits	Completed	[14]
Electrical Trade Theory N3	DHET / St Peace College / Shalom Technical College	Principles of installation, maintenance, safety, circuit design, and troubleshooting. Subject of irregularity investigation.	ID 66881 / 1104126	NQF Level 3 / 4	Under Investigation	[4], [7, 13]

Specialized Skill: Three-phase Systems	City Power / Eskom / SAQA	Fault find, repair, and maintenance of three-phase electrical systems and motors.	ID 10259	Not in source	Certified Competency	[9], [10]
Specialized Skill: Low Voltage Distribution	City Power / Eskom / SAQA	Install and maintain low voltage distribution boards, protection systems, and earthing.	ID 258937	Not in source	Certified Competency	[9], [10]
Specialized Skill: Wiring of Premises	St Peace College / SAQA / SABS	Demonstrating an understanding of wiring protocols and SANS 10142 compliance.	ID 263006	Not in source	Certified Competency	[9], [10]
Distributed Temperature Sensing (DTS) System	City Power Johannesburg	Fiber optic thermal monitoring on HV cable feeders; real-time conductor temperature calculation.	CP_TSSPEC_150 / 109	Optical frequency-domain reflectometry	Procurement Phase	[413.1]
Substation Automation Standard	Eskom	Network architecture and application design for Transmission Substations; includes IEDs, RTUs, and Gateways.	240-61268959	Technical Standard (Rev 3)	Active	[4]
Madinda Utilities AMI Rollout	Madinda Utilities / City Power / DTIC	National rollout of DLMS/COSEM-compliant Advanced Metering Infrastructure for revenue protection.	IEC 62056-5-3	NQF Level 6 (Technical)	Initial Application	[7]
EcoStruxure Automation Expert	Schneider Electric	Industrial Automation using EcoStruxure, Altivar machines,	Not in source	14.15 Hours Training	Completed	[6, 15]

		and Modicon switches.				
Modicon PLC Configuration	Schneider Electric	Programming and integration of PLCs for process machine control and variable speed drives (Modicon M340).	IEC 17025	Technical Expert	Completed	[7]
Supply and Delivery of Vacuum Autoclaves	Department of Health (NDoH)	Supply, delivery, and off-loading of RDX 320 vacuum autoclaves (Part number 016000), 23-inch size.	RFQ 2022/NDoH-0809	Budget: R550,000	Closing Date 17 March 2022	[2], [8]
SQA Advanced Certificate in Electrical Engineering	SQA (Scottish Authority)	Electrical Principles, Three Phase Induction Motors, Power Electronics, and PLCs.	Group Code: GP6D 47	SCQF Level 7, 96 Credits	Active	[824769_Career center]
National Certificate: Mechatronics	Merseta	Air conditioning, refrigeration, ventilation, fitter welding, and control instruments.	17-QA/ACC/1311/17	NQF Level 3	Accredited	[1]
National Certificate: Autotronics	Merseta	Interpret electrical working drawings; manufacturing and assembly.	Not in source	NQF Level 3	Completed	[2]
Schneider Home Certification	Schneider Electric	Training for energy management systems; Inverter installation, Pulse Backup Controller, and commissioning.	HDAPRDCS0001005	3 NABCEP CEU credits	In Progress	[4]
Brevet de Technicien	French Ministry of	Smart electrical installations, design,	RNCP41007	EQF Level 5	Registration Phase	[7]

Supérieur (BTS)	Education	dimensioning components, and performance diagnostics.				
National Certificate: Electrical Engineering (Hazardous Locations)	SAQA / St Peace College	Install, test and maintain electrical equipment in hazardous locations; commission DC/AC machines.	63790 / 72071	NQF Level 3, 133 Credits	Completed	[7], [14], [16]
Electrician (Shift Worker) Vacancy	City Power SDC	Daily maintenance, repair, and installation of electrical systems; requires N2 and Trade Test.	REF 001	TASK GRADE 9	Vacancy	[3]
Section 37(1) OHS Agreement	City Power / Contractor	Legal agreement ensuring compliance with OHSA 85 of 1993 during construction.	Section 37(1) OHSA	Statutory Compliance	Pre-construction	[11]
Workplace Dispute Resolution	SASSETA / CCMA	Labour Law training regarding workplace safety and dispute resolution.	Not in source	NQF Level 5	Completed	[10]
Physical Security Tender	PSIRA	Physical security services for the National Council Bargaining for Private Security Sector.	RFB/2017/PSIRA	Level 4	Tender Published	[2]
Electronic Security Skills Programme	Sasseta / PSIRA	Cabling methods, safe practices, engineering hand tools, and radio transmitter systems.	Not in source	NQF Level 4	In Progress	[2]

[1] 795797_Prospect student alu research 2 assessement thesisi experimental ,,.docx

[2] 176245_course ciriculum total course thesis alumine(1)(1).docx
[3] 398481_portofolio career ,Research college engineering career joint gov compagny department 234(1).docx
[4] 252678_thesi project book , final engineerin tshingombe , time table allocation job cost.docx
[5] The_Labyrinth_to_the_Blueprint-1.pdf
[6] new 2career engineering.2.pdf
[7] new 5career engineering5.pdf
[8] 359173_Proposal of thesis content 2 final research(2).docx
[9] new 3career engineering3(1).pdf
[10] new 4career engineering4.pdf
[11] 398987_Prospect student alu research 2 assessement thesisi experimental ,,.docx
[12] Proposal of thesis content. 1-1.pdf
[13] Proposal of thesis content 2 final research(4).docx
Based on 20 sources

Item	Current Unit Price	Quantity Sold	Total	Average Price	Source
000123 - Engineering chemistry, engineering physics, metallurgy	2000000.00	3.0	6000000.00	2000000.00	[1], [2]
001126867 - Instruction: food medicinal value assessment, low	5009898.00	2.0	10019796.00	5009898.00	[1], [2]
0022345 - Instruction: bio food manufacturing package assembly mechanical	5090098.00	1.0	5090098.00	5090098.00	[1], [2]
01134567 - Instruction: scale mass bio food balance, measurement	5009878.00	1.0	5009878.00	5009878.00	[3]
0224574 - Manufacture: control logic, engineering fundamentals, system	3450008767.00	1.0	3450008767.00	3450008767.00	[3]
0092663 - Instruction: administrative skill communication, commission marketing	2699389.00	1.0	2699389.00	2699389.00	[3]
0092096 - Instruction: database drawing CAD, commissioner	2589658.00	1.0	2589658.00	2589658.00	[1], [2]
00926959 - Instruction: database Unix web mail office	2589636.00	1.0	2589636.00	2589636.00	[3]
0092696 - Instruction: database treatment text table creation	2580996.00	1.0	2580996.00	2580996.00	[3]

0099639 - Instruction: database screen VGA, pixel SVGA, code	2580996.00	1.0	2580996.00	2580996.00	[3]
0072569 - Instruction: commission composite, visa ID, supply	2536609.00	1.0	2536609.00	2536609.00	[1], [2]
00725669 - Instruction: commission, municipality, visa engine supply	2506690.00	1.0	2506690.00	2506690.00	[1], [2]
0996396 - Instruction: cybersecurity, policy safety database	2589963.00	1.0	2589963.00	2589963.00	[3]
090008 - Manufacture: mathematics engineering functions	2578987.00	1.0	2578987.00	2578987.00	[3]
0963669 - Instruction: data initial unity central, logic arithmetic	2500693.00	1.0	2500693.00	2500693.00	[3]
099987 - Engineering: Electrotechnology, power rate nominal	2098998.00	2.0	4197996.00	2098998.00	[2], [3]
4009898 - Engineering: electrical construction, substation, station	2000989.00	3.0	6002967.00	2000989.00	[2], [3]
0989986 - Engineering: electrical energy norm, industrial energy	2099989.00	4.0	8399956.00	2099989.00	[3]
02346 - Engineering: electrical, electromagnetic, AC/DC load	209099878.00	4.0	836399512.00	209099878.00	[3]
2309898 - Engineering: electrical, electrostatic load, dynamic	2345999.00	1.0	2345999.00	2345999.00	[3]
234568 - Engineering: quality survey, geomatics	209898765.00	1.0	209898765.00	209898765.00	[3]
Work benches for technology program	10000000.00	2.0	20000000.00	10000000.00	[4]
Smart Panel / EcoStruxure Smart Panel	12000.00	1.0	10000.00	10000.00	[5], [6], [7]
016000: RDX 320 vacuum autoclaves	Not in source	39.0	550000.00	14102.56	[4], [6], [8]
Assistant Director: Monitoring and Evaluation	527298.00	2.0	1054596.00	527298.00	[9]

001 - redundant processor, Modicon M580, 8MB, Ethernet	177037.09	Not in source	385363.62	Not in source	[10]
001 - license, EcoStruxure Control Expert, base, 1 user	14435.28	Not in source	261204.87	Not in source	[10]
002 - license, EcoStruxure Control Expert, XL, 10 users	246769.59	Not in source	261204.87	Not in source	[10]
008 - license, EcoStruxure Automation Expert, M580 dPAC extensions	56448.56	Not in source	331172.31	Not in source	[10]
00996363 - Instruction: order books, log books, incident books	50000693.00	1.0	50000693.00	50000693.00	[3]
0963696336 - Instruction: risk assessment book, policy book	50006963.00	1.0	50006963.00	50006963.00	[3]
0099636632 - 0099636633	996636996.00	1.0	996636996.00	996636996.00	[3]
Professional Engineering Registration	1500.00	1.0	1000.00	1000.00	[5], [6], [7]
Senior Lecturer - PL2 Engineering Studies	353979.00	Not in source	353979.00	353979.00	[9]
001123456 - Instruction: biotechnology machine, agro value	500989.00	2.0	1001978.00	500989.00	[1], [2]
001123984 - Instruction: food nutrients, basic/acid ph, GRA	500989.00	2.0	1001978.00	500989.00	[1], [2]
00114356 - Instruction: biotechnology policy, skill development	500098.00	2.0	1000196.00	500098.00	[1], [2]
00122357 - Instruction: food value assessment portfolio	500098.00	2.0	1000196.00	500098.00	[1], [2]
0099663663 - Instruction: book record sales, exercise book	500063.00	4.0	2000252.00	500063.00	[2], [3]
0996366369 - Instruction: exercise book completed rewritten topics	500063.00	2.0	1000126.00	500063.00	[2], [3]
0099636963 - Instruction: skill development safe secure policy	50096996.00	1.0	50096996.00	50096996.00	[3]
00112345 - Instruction: health biotechnology,	50098.00	2.0	100196.00	50098.00	[1], [2]

vacuum low					
00113456 - Instruction: biomicrobiology, scanner biochem	50009.00	2.0	100018.00	50009.00	[1], [2]
002345 - Engineering: construction civil, mechanical, electric	345654.00	3.0	1036962.00	345654.00	[1], [2]
00652 - Instruction: license fiscal, marketing department	258369.00	1.0	258369.00	258369.00	[1], [2]
0072536 - Instruction: fiscal plate, empower value	639980.00	1.0	639980.00	639980.00	[1], [2]
0072693 - Instruction: city meter plate, fiscality	528809.00	1.0	528809.00	528809.00	[1], [2]
009258886 - Instruction: database intelligence robot, system	582669.00	1.0	582669.00	582669.00	[1], [2]
00989876 - Engineering: electrical, electrotech, EIC norms	200898.00	4.0	803592.00	200898.00	[2], [3]
009899 - Engineering: artisan, logistics, operational	209989.00	3.0	629967.00	209989.00	[2], [3]
456779 - Engineering: building mechanical, electric support	203040.00	2.0	406080.00	203040.00	[2], [3]
06266639 - Instruction: commission, energy electrical engineering	6399965.00	1.0	6399965.00	6399965.00	[3]
00996539 - Instruction: market data, stamp, cheque note	26998399.00	1.0	26998399.00	26998399.00	[3]
009969859 - Instruction: architect PC, system data, circuit	15699639.00	1.0	15699639.00	15699639.00	[3]
00996363669 - Instruction: exercise book, journal account	5000.00	3.0	15000.00	5000.00	[2], [3]
00996369669 - Instruction: skill development portfolio	56000.00	2.0	112000.00	56000.00	[2], [3]
00996366366 - Instruction: skill development textbook engineering	25000.00	2.0	50000.00	25000.00	[2], [3]
96336369 - Instruction: exercise book, library	50006.00	2.0	100012.00	50006.00	[2], [3]

bookkeeping					
099899 - Engineering: municipality metering energy	235689.00	2.0	471378.00	235689.00	[2], [3]
2000898 - Engineering: electrical construction, electromechanic	239000.00	2.0	478000.00	239000.00	[2], [3]
200989 - Engineering: electrical trade, manufacture supply	200989.00	2.0	401978.00	200989.00	[2], [3]
Business Engineering	20000.00	5.0	100000.00	20000.00	[11]
ALABFULLTERM A-Lab Application ID 14	120000.00	1.0	120000.00	120000.00	[12]
0 - Fiscal fraud, energy tax, engine	25000.00	1.0	25000.00	25000.00	[1], [2]
00112345098 - Instruction: food inspection, composite low	50000.00	2.0	100000.00	50000.00	[1], [2]
0011236398 - Instruction: biotechnology, food beverages	50000.00	2.0	100000.00	50000.00	[1], [2]
00526 - Instruction: visa electrical, meter energy permit	25000.00	1.0	25000.00	25000.00	[1], [2]
007200 - Instruction: commission council, visa passport ID	25000.00	1.0	25000.00	25000.00	[1], [2]
0092963 - Instruction: information processing commissioner	25000.00	1.0	25000.00	25000.00	[3]
052008 - Education: building certificate, handbook, license	25000.00	1.0	25000.00	25000.00	[3]
052963 - Education: professional license handbook buildings	25000.00	1.0	25000.00	25000.00	[3]
09963996 - Instruction: data commercial low liquid	25000.00	1.0	25000.00	25000.00	[3]
09996085 - Instruction: court order tax, financial estate	50000.00	1.0	50000.00	50000.00	[3]
001134567 - Instruction: agro pastoral tools equipment	50000.00	1.0	50000.00	50000.00	[1], [2]
001334 - Engineering:	2345.00	5.0	11725.00	2345.00	[1], [2]

plastic, metallurgy, geotechnical					
Corporate Gift Cards	12000.00	5.0	60000.00	12000.00	[12]
Electrical Wiring Kit	450.00	1.0	300.00	300.00	[5], [6]
Labour Law Training	1200.00	1.0	800.00	800.00	[5], [6], [7]
MBM302 Master Thesis Review	450.00	1.0	300.00	300.00	[5], [7]
CI/CD Pipeline Subscription	120.00	1.0	60.00	60.00	[5], [7]
Elektor Electronics Starter Kit	450.00	Not in source	360.00	360.00	[6], [7]
001 - Controller, Modicon M171/M172/M173, 22 IO	9888.63	1.0	30687.22	Not in source	[10]
Strategic Consulting	Not in source	Not in source	1270000000.00	121500000.00	[5]
052001 - Education technology and engineering	20000.00	1.0	20000.00	20000.00	[3]
052003 - Education pedagogy tech, engineering	20000.00	1.0	20000.00	20000.00	[3]
05236 - Education training, trainer engineering	20000.00	1.0	20000.00	20000.00	[3]
Engineering electrical research project fee	50000.00	Not in source	50000.00	50000.00	[4]
Engineering studies assessment	50000.00	Not in source	50000.00	50000.00	[12]
Electrical portfolio review	50000.00	Not in source	50000.00	50000.00	[12]
Engineering electrical assessment curriculum policy	50000.00	Not in source	50000.00	50000.00	[12]
Issue certificates (Expiry/Non-expiry/CPD/Blockchain)	1.00	Not in source	Not in source	1.00	[6], [13]

[1] 795797_Prospect student alu research 2 assessement thesisi experimental ,,.docx
[2] 398987_Prospect student alu research 2 assessement thesisi experimental ,,.docx
[3] 398481_portofolio career ,Research college engineering career joint gov compagny department 234(1).docx
[4] 176245_course ciriculum total course thesis alumine(1)(1).docx
[5] new 4career engineering4.pdf
[6] Proposal of thesis content 2 final research(4).docx
[7] new 3career engineering3(1).pdf
[8] 359173_Proposal of thesis content 2 final research(2).docx
[9] 574174_zaire tvet practical theory St peace College.docx

[10] 252678_thesi project book , final engineerin tshingombe , time table allocation job cost.docx
[11] new 2career engineering.2.pdf
[12] experimental2 career thesis tlantic office pc lab(4).docx
[13] Unified_Mastery_Engine.pdf

[15] experimental2 career thesis tlantic office pc lab(4).docx
[16] Unified_Mastery_Engine.pdfBased on 38 sources

Credential/Qualification Title	Awarding Institution/Platform	Level/Standard ID	Subject Area	Duration/Credits/Hours	Status	Application/Project Type	Reference/ID Number	Source
National N Diploma in Electrical Engineering	DHET / SAQA / St Peace College / QCTO	NQF Level 6 / SAQA ID: 111285 / 90674 / 66994 / 67109	Electrical Engineering	360 Credits / 24 months practical	Awarded / Unresolved (Backlog)	Academic Qualification	20191130002 / 2004007064381 / 2100002023812	[1-3]
Web-Based Crime Management System for Samara City Main Police Station	Qeios Peer-approved Preprints Archive	Not in source	Computer Science / Information Systems	Not in source	Published / Preprint Published	Research Article/Preprint	doi:10.32388/JGU5FH	[3, 4]
National Certificate: Electrical Engineering: Mining	SAQA	NQF Level 3 / SAQA ID 72071	Electrical Engineering (Mining)	133 Credits	Not in source	Vocational Qualification	259037, 119472, 9010, 259097	[2]
National Certificate: N3 Engineering Studies	St Peace College / SAQA	SAQA ID 67491	Electrical Trade Theory, Engineering Science, Mathematics	Not in source	Awarded	Foundational Studies	SAQA ID 67491	[2]
AI Fluency Learning Path / Microsoft AI	Microsoft Learn / Microsoft	Level 17	AI Fluency, Azure	1,483,625 XP	Awarded / Compl	Professional Certificati	MCID: 99587175	[2, 3]

Fluency Program	(in partnership with Sci-Bono)		AI Development, Data Science		etion	on		
Industrial Automation & PLC Training	Schneider Electric	Not in source	PLC Configuration, Energy Modeling, Kinematic Calculation	14.15 Hours (Aggregate)	Completed	Industry-Specific Training	607069d9-fa26-423a-9d8c-d810df173a87	[2]
Master of Eng. Systems - Thesis Review	Atlantic Intl. University	Not in source	Engineering Systems	6h	Accepted	Scholarly Submission	IJETR3156	[1]
NRF Grant Application	National Research Foundation (NRF)	Engineering Domain	Electrical Engineering & Education	Not in source	Submitted	Research Proposal	PSTD250411310291	[1]
NSF I-Corps Application	National Science Foundation (NSF)	Not in source	Innovation, Entrepreneurship & Technological Innovation	Not in source	Declined / Rejected	Funding/Program Application	Feb 3, 2025	[1, 2]
Diploma in Robotics	Alison	CPD Accredited	Robotics & Automation	Not in source	Awarded	Professional Certification	Not in source	[1, 5]
Diploma in Mechatronics	Alison	CPD Accredited	Mechatronics	Not in source	Awarded	Professional Certification	Not in source	[1, 5]
Diploma in Teaching Skills For	Alison	Not in source	Pedagogy	Not in source	Awarded	Professional Qualificati	Not in source	[1, 5]

Educators						on		
Introduction to Data Engineering on Azure	Microsoft	Not in source	AI & Data Science	Not in source	Awarded	Professional Certification	Not in source	[1, 5]
Certificate of Completion: Power Products and Systems	Schneider Electric	Work Expert	Power Products and Systems (Compact NSX, MCCBs)	Not in source	Awarded	Industry Specific Training	Not in source	[1, 5]
Altivar Machine Professional	Schneider Electric	Professional	Automation & Drives (ATV340)	Not in source	Active	Industry-Specific Training	Not in source	[3]
ASHE: Energy Manager	Schneider Electric / ASHE	Curriculum	Energy & Power Systems	Not in source	In Progress	Industry-Specific Training	C001	[3]
Cyber Essentials Plus	BlockMark Registry	UK Cybersecurity Standards	Cybersecurity & Digital Trust	Not in source	Verified (Valid to 2025-12-13)	Professional Certification	Not in source	[1]
SASSETA Assessor & Moderator Certificate	SASSETA / PSIRA	Not in source	Engineering Fabrication, Security Management, Electronics	Not in source	Awarded	Professional Registration	TIRCG00091061010	[2]
GitHub Foundations/ Administration	Microsoft Learn	Not in source	GitHub & DevOps Hygiene	943 Badges	Awarded / In Progress	Professional Certification	Not in source	[3]
ISO 37301:2021 Principle of Compliance	Alison	Not in source	Compliance Management	Not in source	Certified (91%)	Online Certification	Not in source	[2]

Management System								
IT Asset Management Administrator (BSTD)	South African Reserve Bank (SARB)	Ref 1165	Business Systems and Technology	Not in source	Active	Job Application	1165	[3]
Applications Design Lead (BSTD)	South African Reserve Bank (SARB)	Ref 904	Modular Systems Architecture	Not in source	Active	Job Application	904	[3]
Investigator: Digital Forensics	South African Revenue Service (SARS)	Req 10563	Tax Crime & Intelligence	Not in source	Acknowledged	Job Application	10563	[3]
Google Classroom Fundamentals	Google	Not in source	Education Technology	Not in source	Completion	Technical Skills	2802By71CB4243E14290	[6]
From Idea to Reality: A Comprehensive Guide to Setting Up Your Own Company	Atlantic International University (AIU)	Not in source	Entrepreneurship	Not in source	Certificate of Participation	Continuing Education	Date: 13-Oct-2023	[2]

[1] new 3career engineering3.pdf
[2] new career engineering.pdf
[3] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[4] UserForm17 police student registrar tshingombe tank ,,career.frm3.pdf
[5] tshingombe total project article drawing aiu careerRequest an intellectual property (IP) licence _ Metropolitan Police.pdf
[6] tshingombe tshitadi engineering and education technolo
Based on 38 sources

Credential Name	Issuing Body	Subject Domain	Qualification Level	Status/Outcome	Key Competencies	Date	Source
National N Diploma: Electrical Engineering	St Peace College (aligned with SAQA,	Electrical & Industrial Engineering	NQF Level 6	Awarded / Verified	Mathematics (N1-N6), Engineering Science, Electrical Trade Theory, Industrial	2024	[1, 2]

	QCTO, and DHET)				Electronics, Electrotechnics, Plant Operation		
Engineering Electrical N4-N6	SAQA / DHET / QCTO	Electrical Engineering	NQF Level 5 / NATED N4-N6	Awarded / Eligible	Electrical Science, Electrotechnique, Industrial Electronics, Mechanitechnique	Not in source	[3]
National Certificate Engineering Studies (N1-N6)	St Peace College / DHET	Electrical Engineering	NATED N1-N6	Ongoing / Unresolved	Electrical Trade Theory, Industrial Electronics, Electrotechnics, Mathematics, Engineering Science, Engineering Drawing	2023	[4]
Trade Test Certificate	DHET / SETA / QCTO	Electrical Trade	Trade License / NQF Level 5	Pending / In Progress	Fault tracing, motor control, transformer rewinding, metering diagnostics	Not in source	[3]
Registered Professional Engineer	ECSA / Home Affairs	Electrical Engineering	Professional Registration	Awarded	Professional engineering practice and compliance	2025-10-08	[4]
Master of Eng. Systems	Atlantic Intl. University	Engineering Systems	Master's Degree	Accepted	MBM302 Master Thesis Review, Engineering System Analysis	2025-10-08	[4]
Web-Based Crime Management System	Qeios (Peer-approved Preprints Archive)	Computer Science / Information Systems	Research Article / Preprint	Awarded / Published	Web-based complaining, database management of crime records, client-server architecture	Dec 11, 2023	[3]
Information Management System (IMS) Prototype	Inventor: Tshingombe Tshitadi Fiston	Information Management Systems	Not in source	Awarded / Validated	Secure registration, biometric validation, credential handling, modular VB-based architecture	Jul 23, 2025	[3]
NSF I-Corps Application	National Science Foundation (NSF)	AI / Technological Innovation	Grant / Research Submission	Declined	AI-Based Predictive Maintenance in Industrial Systems; Core technology development	2025-02-14	[2, 4]

Cyber Essentials Plus	BlockMark Registry / UK Government	Cybersecurity	Industry Certification	Verified	UK cybersecurity standards compliance	Valid to 2025-12-13	[4]
AI Fluency	Microsoft Learn	Artificial Intelligence	Learning Path Trophy	Awarded / Done	Generative AI, Responsible AI, Azure AI Foundry SDK, Model catalog deployment	Not in source	[3]
Trailblazer Superbadge - Data Cloud	GitHub / Azure DevOps / Salesforce	Data Science	Digital Badge	Awarded	CI/CD Pipeline, Salesforce Data Cloud architecture	2025-10-08	[4]
Data Engineer Associate	Microsoft Azure	Data Engineering	Associate Certification	Awarded	Introduction to Data Engineering on Azure	Not in source	[4]
AZ-900 / SC-900	Microsoft	Azure Cloud / Security	Certification Tier	In Progress / Scheduled	Azure fundamentals, Security/Compliance /Identity fundamentals	Not in source	[3]
Energy Mgmt Compliance	Schneider Electric	Energy Management	Industry Certification	Awarded	Smart Panel, Energy efficiency and compliance	2025-10-08	[4]
Schneider Home Certification	Schneider Electric	Energy Management / Home Automation	Professional Certification	In Progress	Schneider Inverter, Pulse Backup Controller, Load Control, Commissioning Smart Panel	Not in source	[3]
ASHE: Energy Manager	ASHE / Schneider Electric	Energy Management	Curriculum	In Progress	IPMVP, retro-commissioning, power factor analysis	Not in source	[3]
Basic Electrical Safety	Sci-Bono Discovery Centre	Safety	SAQA / NQF Level 4	Awarded	Electrical Wiring Kit, basic safety protocols	2025-10-08	[4]
Assessor / Moderator Certificate	SASSETA / PSIRA	Security & Engineering	Certified	Awarded	Engineering Fabrication, Security Management Electronics Engineering	22 December 2024	[2]
ISO 37301:2021 Principle of	Alison	Compliance	Certified	Awarded (91% Score)	Compliance management principles	Not in source	[2]

Compliance Management System							
Google Classroom Fundamentals	Google	Education Technology	Certificate of Completion	Awarded	Google Classroom usage	October 26, 2023	[5]
GitHub Fundamentals	Microsoft Learn	DevOps	Digital Badge	In Progress	Repositories, branches, commits, administration roles, access control	Not in source	[3]
MIP-630-24-0100-000	Ministerial System / Regulatory	Legal/IP Registration	Registration Identifier	Awarded / Submitted	Intellectual property registration, code submission	14 Feb	[3]
Diploma in Robotics	Alison	Robotics	Diploma	Awarded	Kinematic movement, automation logic	Not in source	[4]
Diploma in Mechatronics	Alison	Engineering	Diploma	Awarded	Signal conditioning, mechatronic systems	Not in source	[4]
Diploma in Teaching Skills for Educators	Alison	Pedagogy	Diploma	Awarded	Constructivism, Motivation Theory, Instructional Design	Not in source	[4]
Certificate of Participation: From Idea to Reality	Atlantic International University (AIU)	Entrepreneurship	Not in source	Awarded	Setting Up Your Own Company	13-Oct-2023	[2]
Advanced Diploma of Electrical Technology and Circuit Analysis	Alison	Electrical Technology	Advanced Diploma	3% Progress	Circuit analysis	Not in source	[2]
Diploma in Electrical Studies	Alison	Electrical Engineering	Not in source	12% Progress	Not in source	Not in source	[2]
Brevet de Technicien Supérieur (BTS) Électrotech	French Higher Education	Electrotechnique	Level 5 national diploma	Not in source	Étude et conception préliminaire d'une installation	Not in source	[2]

nique

Electrician Trade (NIMI)	National Instructional Media Institute (NIMI) / ITI	Indian Vocational Training	NSQF Level 5	Not in source	Wires, Joints - Soldering - U.G. Cables	Not in source	[2]
Salesforce Technical Architect	Salesforce Career Pathways	Enterprise Cloud Platforms	Professional	Not in source	System Architecture, API Integration, and ETL	Not in source	[2]
Career Project Implementation Framework Design	F1000Research	Research Submission	Not in source	Rejected	Not in source	11 Apr 2025	[2]
Research Education Technology and Research Engineer Electrical	F1000Research	Research Submission	Not in source	Rejected	Not in source	09 Feb 2025	[2]

[1] new 2career engineering.2.pdf
[2] new career engineering.pdf
[3] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[4] new 3career engineering3.pdf
[5] tshingombe tshitadi engineering and education tech

Based on 50 sources

Object Name	Label Text	Event Type	Subject Category	Description	Source
Web-Based Crime Management System	Web-Based Crime Management System	Not in source	Information Systems / Law Enforcement	Academic project aimed at automating crime reporting, complaints, and record management for the Samara City Main Police Station.	[1, 2]
GenerateSHA256	SHA ID output	Function Call	Software	VBA function	[1-3]

			Security / Records	used to generate a secure SHA256 hash for product names to ensure integrity and issue certificates.	
cmdPLCCommand	PLC: System Start/Stop	Click	Robotics and Automation	Command button to execute programmable logic control (PLC) commands such as Start, Stop, or Reset for robot control interfaces.	[1, 4]
TextBox9	Protocol accepted / Feeder tripped	KeyDown	Electrical Engineering / Power Systems	Control used to validate protocols (IEC61850) or fault codes (FDR-TRP) for IED configuration or feeder fault isolation.	[1, 2]
Tri_Wave	Generate Triangle Wave	Function Call	Electrical Engineering / Waveform Generation	VBA function designed to generate a triangle wave based on time, voltage levels, and period ramping parameters.	[1, 2]
pin box / pinBox	PIN CODE	Not in source	Crime Management / ATM	Data entry field used to verify a 4-	[5, 6]

			Simulation	digit PIN (9343) for ATM transaction access.	
cmdValidateMetadata	Not in source	Click	Records Management / Archive Sync	Procedural method for mapping, validating, and connecting disparate records into a coherent database or portfolio.	[3, 7]
Kfrm1	Initial registration	Form Module	Information Management System (IMS)	Form for initial user registration capturing personal data including Name, Surname, ID, and Cellphone.	[1]
Kfrm6	Biometric scan	Form Module	Information Management System (IMS)	Form handling biometric scanning and security validation; uses a binary 0/1 status flag to indicate success.	[1, 4]
cmdNext	Next	Click	Initial Registration (Kfrm1)	Command button to validate user data fields (Name, Surname, ID, Cellphone) and navigate to the next	[4]

				form.	
cmdScan	Not in source	Click	Biometric Security	Command button to trigger a simulated biometric scan and return success or failure flags.	[1]
Police search investigate fault system	Patrol search	Not in source	Crime Management / Electrical Engineering	Integration of police investigation principles with electrical grid management to identify system faults.	[5]
LogLaserPrinterComponents	Laser Printer Component Logger	Macro Execution	Vocational Training / Technical Documentation	VBA macro that logs laser printer components (Laser Unit, Fuser, etc.) to an Excel worksheet for maintenance training.	[1]
DrawSARBLogigram	SARB Applications	Macro Execution	Career Strategy / Financial Governance	VBA macro to generate a logigram mapping job applications at the South African Reserve Bank by department and status.	[1]
K_op_non	Op amp closed loop gain	Function Call	Electrical Engineering / Circuit Analysis	Function to calculate the closed loop gain of a non-inverting	[1]

				operational amplifier.	
K_Rdiv1	Not in source	Not in source	Electrical Engineering	VBA function to calculate the gain of a resistor divider circuit.	[8]
SineWave	Not in source	Not in source	Electrical Engineering	VBA function to create a sine wave given magnitude, frequency, phase, and DC offset.	[8]
PLC READ DATA	READ DATA FROM PLC	Not in source	Electrical Engineering / Industrial Automation	Context for reading information from a PLC via IP address 10.126.224.221.	[5]
PLC WRITE DATA	WRITE DATA TO PLC	Not in source	Electrical Engineering / Industrial Automation	Context for sending commands or data to a programmable logic controller.	[5]
PLC COMMUNICATION PROGRAMME	PLC COMMUNICATION PROGRAMME	GenerateSHA256 (Inferred)	Electrical Engineering	Technical program designed for establishing communication protocols with PLC hardware devices.	[5]
txtPhone	Phone Number	Enter (Input Mask)	Data Entry Validation	Application of an input mask `(000)000-0000` for structured	[4, 9]

				phone data entry.	
text16	label 17 integer circuit	Not in source	Electronics	UI element for managing integrated circuit (IC) data.	[2]
text3	label 4 material copp	Not in source	Trade Theory	Entry field for identifying copper material requirements.	[2]
text1	label 2requiremn	Not in source	Trade Theory / Lab Tools	Data entry field for components, tools, and requirements in a lab workshop manufacture framework.	[2]
Label11	number	Click	Electrical Engineering / Career Portfolio	Control for entering numbers in a workshop context or an empty event handler in a career portfolio form.	[1, 2]
cmdCalculate	Not in source	Click	Customer Transaction Systems	Command button to compute subtotal and total after discount for customer transactions.	[1]
EvaluateRule	Not in source	Function Call	Compliance Management	Function to evaluate observed values against targets to	[1]

				determine Pass/Fail status and weighting scores.	
cmdMove	Move	Click	Robotic Control Interface	Triggers kinematic movement across X, Y, and Z axes using servo mechanisms.	[4]
frm dataentry	student registration form	Not in source	Academic Administration	User form properties for a student registration application, including dimensions and background color.	[5]
txt student name	Student's name	Not in source	Academic Administration	Textbox control within a student registration form used for inputting student names.	[5]
transaction box	Not in source	Load	Banking Simulation	Public class for an ATM program containing constants for service charges and pin codes.	[5]
txt_label 4	true. Crime Scene Mana	Not in source	Policing	Text field related to Principles of Police Investigation and Crime Scene	[10]

				Management.	
txt_label9	true	Not in source	Crime Management / Policing	UI element on a form relating to Operational Performance in Traffic Management.	[10]
UserForm17	Not in source	Terminate	Academic Project Metadata	Cleanup event for a form related to a police student registrar or career management project.	[2, 8]
githubPullRequests.queries	Waiting For My Review	Extension Configuration	Software Development / VS Code	Setting to customize the pull request tree categories in the GitHub Pull Requests extension.	[1]
txtTo	Recipient	Initialization	Email Message System	Textbox for recipient email address in an automated email message composer.	[1]
chkDeleteUnread	Recall Message	Conditional Logic	Email Management	Checkbox used in logic to attempt deletion of unread message copies during a message recall.	[1]
cmdSend	Send	Click	Address & Birthday (Kfrm2)	Command button to capture	[4]

				address and birthday data and proceed to confirmation.	
cmdLogin	Login	Click	Account Login (Kfrm4)	Command button for user authentication requiring username and password.	[4]
Supplier Table	Not in source	Database Schema	Inventory Management	Database table tracking supplier details including ID, Name, Contact, Address, and Phone.	[1]
CommandButton1	OK	Click	General UI	Standard command button control found in UserForm2 and others for submitting form data.	[11, 12]
Frame1	ok cancel next	Click	Information Management System (IMS)	Control frame for navigating registration forms, including OK, Cancel, and Next actions.	[4]
SpinButton1	Not in source	Change / SpinDown	General UI	VBA spin button control used for incrementing or decrementing values.	[4, 5]
ScrollBar1	Not in source	Change	UI Control	VBA scroll	[4]

				bar control event for user interface navigation.	
TabStrip1	Not in source	Change	UI Control	VBA tab strip control for multi-page form navigation.	[4]
ComboBox1	Not in source	Change	General UI	Empty event handler for a combo box component in form frm1.	[5]
cboName	Load Name	Change	Form Input	ComboBox for selecting or loading user names into text fields.	[4]
TextBox4	Not in source	DblClick	General UI	Event handler for double-clicking a text box in UserForm1, including drag and drop parameters.	[5]
TextBox29	Not in source	Change	Career and Trade Portfolio	Empty event handler for a change event in a textbox control.	[1]
button 23	Not in source	Click	Calculator Software	VBA code snippet handling arithmetic operations such as addition and exponentiation.	[5]
cm add	Not in source	Click	Calculator Software	Handles addition operator	[5]

				assignment and sets focus to the text input field.	
cmd decimal	Not in source	Click	Calculator Software	Logic to prevent multiple decimal points in a numeric input field.	[5]
cmd clear	Not in source	Click	Calculator Software	Subroutine to clear the text input field.	[5]
HTMLText1	Not in source	GotFocus	VBA Excel Sheet	Event trigger when the HTML text control receives focus.	[13]

[1] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[2] TRADE THEORY AND PRATICAL TOOLS LAB WORKSHOP MANUFACTURE,,, framework.pdf
[3] new career engineering.pdf
[4] UserForm total career outcom 90000333 , completed tota.frm to trade.frmt5.pdf
[5] Doc13 design tshing.docx
[6] UserForm1 5tshingombe atm.pdf
[7] new 2career engineering.2.pdf
[8] UserForm16 tshingombe circuit trade theory readness job.frm 2.pdf
[9] tshingombe total project article drawing aiu careerRequest an intellectual property (IP) licence _ Metropolitan Police.pdf
[10] UserForm14 policy project excell word cae macro , tshingombe.frm2.frm1.pdf
[11] TRADE EXPO DISOVERY CAREER CPD.pdf
[12] UserForm2tshingombe registration statenmt x1.pdf
[13] VBA EXCELL SHEET.pdf

Based on 50 sources

Control ID	Caption or Label	Associated Functionality	Data Type or Value	Program Structure (Inferred)	Source
TextBox9	Fault Code	KeyDown; Change; Check if text equals 'IEC61850' or 'FDR-TRP'	String	System event	[1-4]

		for relay status alerts.		handler	
GenerateSHA256	SHA ID Output	Mathematical Formula / Hashing; Public Function to create SHA256 hash from input text.	String	Backend logic function	[1, 3]
Tri_Wave	Triangle Wave Generator	Mathematical formula (dV/dt calculation); Function to generate a triangle wave based on time and voltage levels.	Double	Backend logic function	[1, 3, 5]
SineWave	Sine Wave Generator	Vp ×sin(2×π×fo ×t+phase×π/180)+Vdc	Double	Backend logic function	[1]
txtQuantity	Quantity	qty×price; Exit (Numeric validation).	Double	UI element	[1, 2]
txtSubtotal	Subtotal	qty×price	Currency	Backend logic function	[2]
cmdScan	Biometric Scan	Click (Biometric validation).	Integer (biometric Flag)	UI element	[1]
txtPhone	Phone Number	Input Mask: (000)000-0000	String	System event handler	[1]
cmdNext	Next	Click (Input validation and form navigation).	Boolean/Logic	Backend logic function	[2]
cmdSend	Send	Click (Address/Birthday validation).	Boolean/Logic	Backend logic function	[2]
cmdLogin	Login	Click (Credential check).	admin/1234 (Strings)	Backend logic function	[2]
cboName	Name	Change (Load name to TextBox).	String	UI element	[2]
cmdOK	OK	Click (Required field validation).	Boolean/Logic	Backend logic function	[2]

cboStatus	Status	AddItem	Passed/Failed (String)	UI element	[2]
cmdMove	Move	Click (Coordinate validation/Servo activation).	Double (X, Y, Z coordinates)	System event handler	[2]
txt student name	student name	Reset text and backcolor to white.	String	UI element	[6]
TextBox1	student name	Input product name or student name; Change event.	String	UI element	[3, 7, 8]
CommandButton2	OK	Click event; linked to confirmation or navigation logic.	Boolean	UI element	[9, 10]
Label11	LABEL NUMBER	Click event.	Not in source	UI element	[1, 3, 4]
Label2	requirement	Click event; associated with 'criminal record center' UI section.	Not in source	UI element	[3, 9, 11]
pinBox	Not in source	Verify user PIN code for access control (9343).	String (Constant: 9343)	UI element	[9]
pin	Not in source	Security pin validation.	Integer = 9343	Backend logic function	[6]
SERVICE_CHARGE_DECIMAL	Not in source	Constant value used for calculating transaction fees.	Decimal (6.5)	Backend logic function	[9]
service – charge	Not in source	Fixed fee constant.	Decimal = 6.5	Backend logic function	[6]
Balance	Not in source	Track and update account balance via deposit and withdraw functions.	Decimal (Initial: 150)	Backend logic function	[9]
biometricFlag	Not in source	Simulated scan success.	Integer (1)	Backend logic variable	[2]
chkDeleteUnread	Not in source	Value check (Recall Message).	Boolean (True)	UI element	[2]

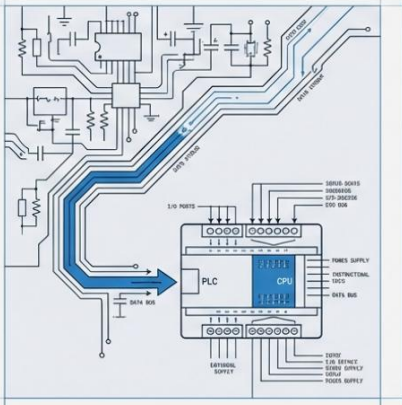
				/ Logic check	
frm dataentry	student registration form	Name property.	Not in source	UI element	[6]
resul	Not in source	Stores calculation result.	Double	Backend logic function	[6]
operand 2	Not in source	Holds input numeric value.	Double	Backend logic function	[6]
cm add	+	Click (Addition operator).	Not in source	System event handler	[6]
has decimal	Not in source	Track decimal point status.	Boolean	Backend logic function	[6]
BuildMilStd810AuditChecklist	Not in source	Subroutine to parse MIL-STD documents and generate Excel checklists.	Subroutine	System event handler	[12]
UserForm_Initialize	Not in source	Event handler to reset form states upon startup.	Subroutine	System event handler	[7, 8, 10]
cmdValidateMetadata	Not in source	Click event to validate text fields like Title and Depot for archival sync.	Subroutine	UI element	[12]
cboImportance	Importance	Not in source	String ("Normal")	UI element	[1]
TextBox8	Not in source	Change, KeyDown, and MouseMove events.	Not in source	UI element	[3, 9]
Frame1	Not in source	Click	Not in source	UI element	[1, 2]
SpinButton1	Not in source	Change; SpinDown / KeyPress.	Not in source	System event handler	[2, 6]
ScrollBar1	Not in source	Change	Not in source	UI element	[2]
TabStrip1	Not in source	Change	Not in source	UI element	[2]
cmd clear	Not in	Click (Clear Txt input).	Not in	System	[6]

	source		source	event handler	
HTMLOption2	Not in source	Click	Not in source	UI element	[13]

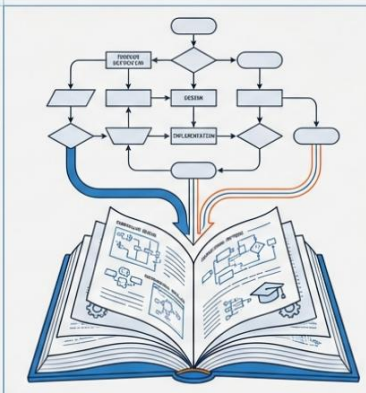
[1] UserForm 90004444 career totand and trade portoloio.frm1.pdf
[2] UserForm total career outcom 90000333 , completed tota.frm to trade.frmt5.pdf
[3] TRADE THEORY AND PRATICAL TOOLS LAB WORKSHOP MANUFACTURE,,, framework.pdf
[4] TRADE EXPO DISOVERY CAREER CPD.pdf
[5] UserForm16 tshingombe circuit trade theory readness job.frm 2.pdf
[6] Doc13 design tshing.docx
[7] UserForm computer tshingombe register trade theory engineering artificial intelligent counter subject time.txt
[8] user form 6. student register 3 tshingombe.pdf
[9] UserForm1 5tshingombe atm.pdf
[10] vb tshingombe 7.pdf
[11] UserForm14 policy project excell word cae macro , tshingombe.frm2.frm1.pdf
[12] new 2career engineering.2.pdf
[13] VBA EXCELL SHEET.pdf

THE INTEGRATED ENGINEER-EDUCATOR

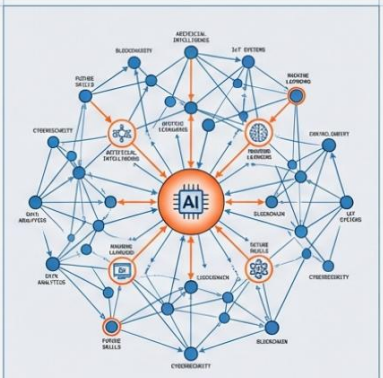
SYSTEMS, DESIGNS, AND CURRICULA



TECHNICAL ENGINEERING



PEDAGOGICAL FRAMEWORKS



FUTURE-READY CURRICULUM

A TRANSDISCIPLINARY PORTFOLIO BY TSHINGONBE TSHITADI FISTON

AFFILIATIONS: SAQA (JOHANNESBURG) | ATLANTIC INTERNATIONAL UNIVERSITY (HONOLULU) | TSHINGONBEFISTON@GMAIL.COM

NotebookLM

BRIDGING TECHNICAL DIAGNOSTICS WITH EDUCATIONAL REFORM

EXECUTIVE SUMMARY

Drawing analysis and system design are not just technical skills—they are pedagogical tools for **career development, compliance assurance, and infrastructure reform.**

THE ENGINEER

Expertise in Microgrid Modeling, Eaton Switchgear, PLC Communication, and Azure Cloud Architecture.

THE EDUCATOR

Creator of the "Drawing Analyse Design System"—a proprietary framework published in 2025 designed to align technical training with SAQA/NQF standards.

SCOPE OF WORK

- Proprietary Methodology (Logigrammes)
- Hard Engineering (Schematics & Code)
- Curriculum Development (40+ Verticals)
- Professional Validation (Microsoft & Eaton)

PAGE 01/01

PROJ-2025-TECH-EDU - MAY 28, 2025

NotebookLM

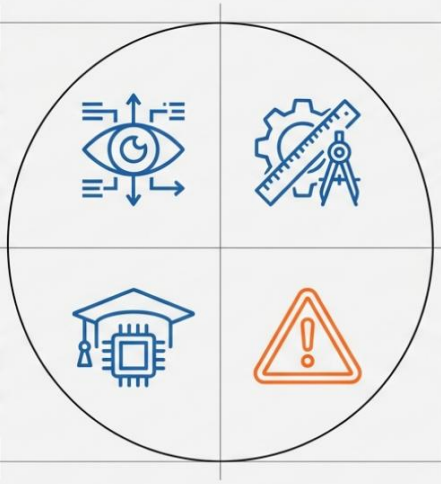
Paper White

THE CORE FRAMEWORK

DRAWING ANALYSE DESIGN SYSTEM (ASSET ID: 1120263)

DRAWING ANALYSIS
Schematic Interpretation, Flow Diagrams, Calibration Maps

SYSTEM DESIGN
WA-Coded Diagnostics, Modular Engineering



EDUCATIONAL INTEGRATION
LMS Integration, SAQA/NQF Alignment

FAULT DIAGNOSTICS
Visual Logic, Calibration Mapping

DEFINITION
A transdisciplinary framework for analyzing and designing technical systems through schematic interpretation, fault diagnostics, and compliance modeling.

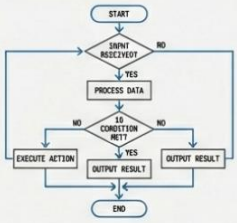
METRICS
Published 15 August 2025 | Open Access License

Paper White

METHODOLOGIES OF DIAGNOSIS

LOGIGRAMME & ALGORIGRAM

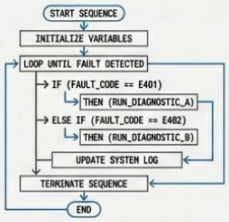
LOGIGRAMME



- **Definition:** Flowchart-based logic for system behavior and decision-making.
- **Application:** Scaffolds learning via "Input -> Process -> Output" flow.

- **Definition:** Flowchart-based logic for system behavior and decision-making.
- **Application:** Scaffolds learning via "Input -> Process -> Output" flow.

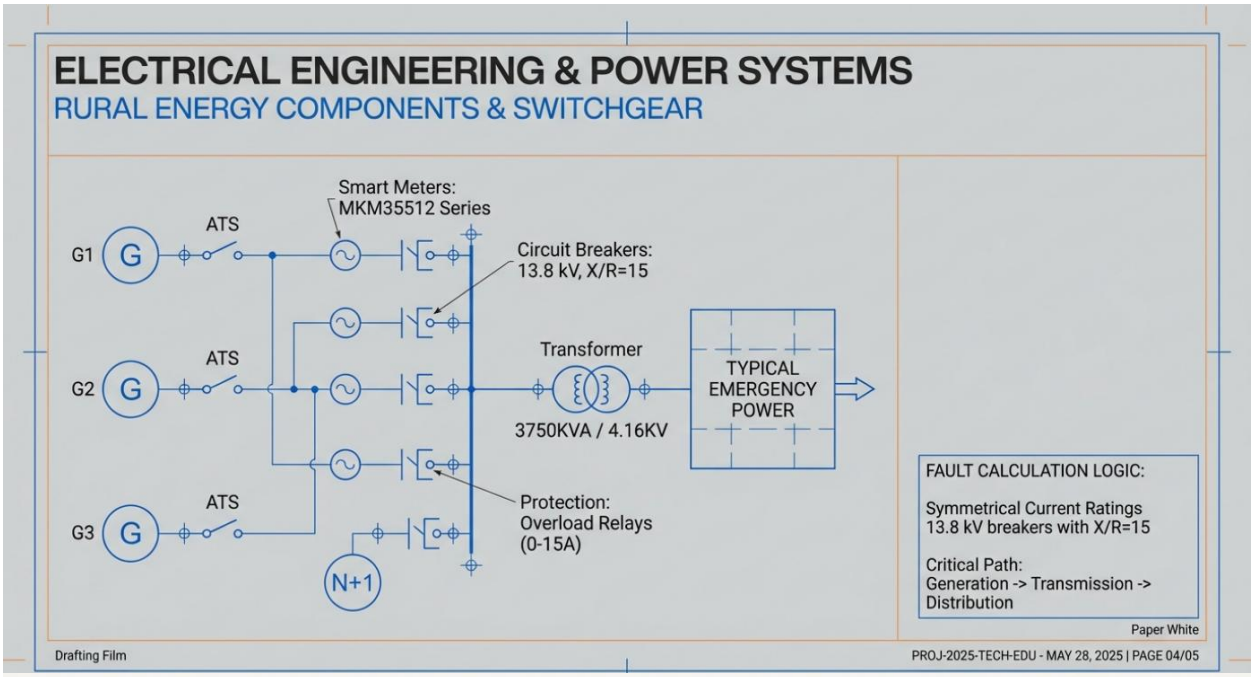
ALGORIGRAM

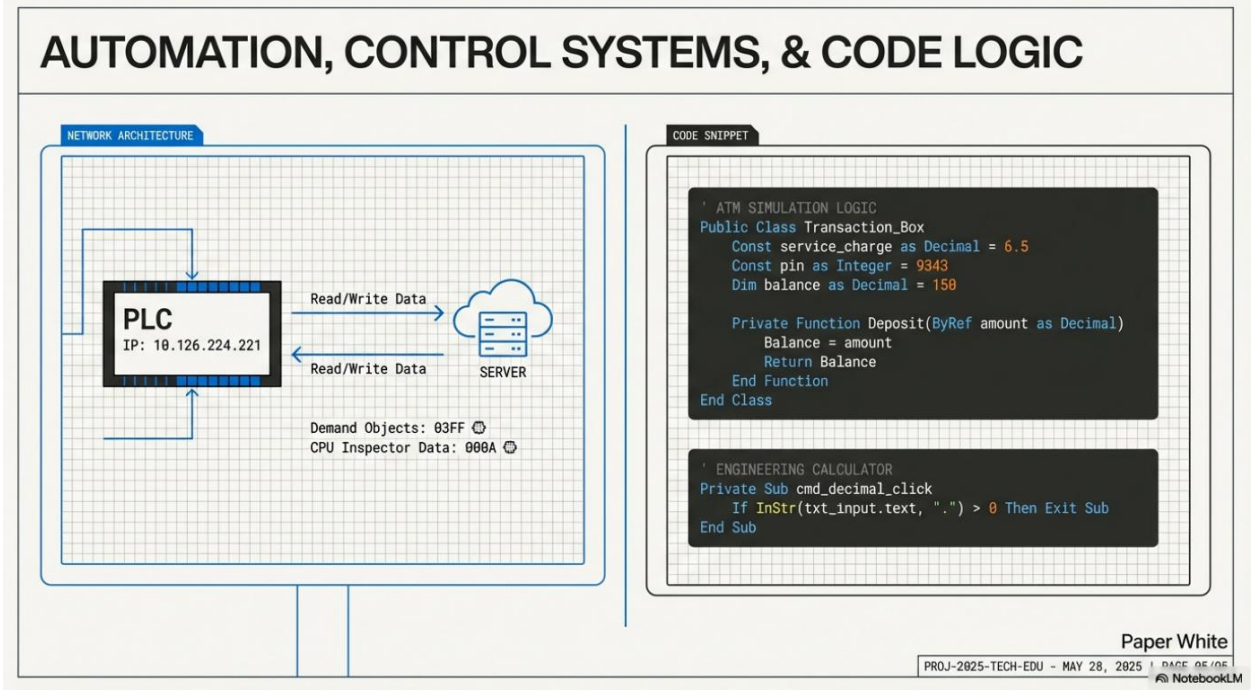


- **Definition:** Algorithmic representation of engineering processes for fault resolution.
- **Application:** Simulates diagnostics and SAQA exit-level outcomes.

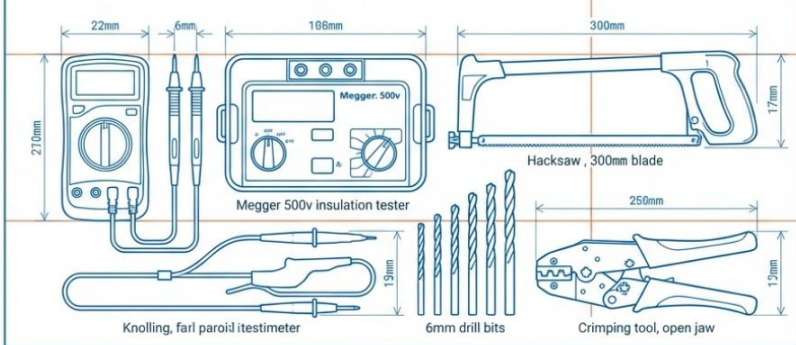
- **Definition:** Algorithmic representation of engineering processes for fault resolution.
- **Application:** Simulates diagnostics and SAQA exit-level outcomes.

INPUT (SCHEMATIC) → **ANALYSIS (WA CODE MAPPING)** → COMPLIANCE MODELING → **OUTPUT (FAULT RECOVERY)**


ELECTRICAL ENGINEERING & POWER SYSTEMS
RURAL ENERGY COMPONENTS & SWITCHGEAR
Smart Meters:
MKM35512 Series
ATS
G1
G
Circuit Breakers:
13.8 kV, X/R=15
ATS
G2
G
Transformer
TYPICAL
EMERGENCY
POWER
3750KVA / 4.16KV
ATS
G3
G
Protection:
Overload Relays
(0-15A)
N+1
FAULT CALCULATION LOGIC:
Symmetrical Current Ratings
13.8 kV breakers with X/R=15
Critical Path:
Generation -> Transmission ->
Distribution
Paper White
Drafting Film
PROJ-2025-TECH-EDU - MAY 28, 2025 | PAGE 04/05


AUTOMATION, CONTROL SYSTEMS, & CODE LOGIC
NETWORK ARCHITECTURE
PLC
IP: 10.126.224.221
Read/Write Data
Read/Write Data
SERVER
Demand Objects: 03FF
CPU Inspector Data: 000A
CODE SNIPPET
' ATM SIMULATION LOGIC
Public Class Transaction_Box
Const service_charge as Decimal = 6.5
Const pin as Integer = 9343
Dim balance as Decimal = 150
Private Function Deposit(ByRef amount as Decimal)
Balance = amount
Return Balance
End Function
End Class
' ENGINEERING CALCULATOR
Private Sub cmd_decimal_click
If InStr(txt_input.text, ".") > 0 Then Exit Sub
End Sub
Paper White
PROJ-2025-TECH-EDU - MAY 28, 2025
NotebookLM

PRACTICAL FIELD ENGINEERING & COMPONENT DESIGN



THE WIRING SPECS

Cabling: 1.5 sqm copper

Fasteners: Nylon cable binders

Connectors: Terminal connector, wire ferrules

Control Panel: Push buttons (Red/Green), Indicator holders

THE PHYSICAL ENERGY FLOW

STEAM GENERATION → HIGH PRESSURE → TURBINE → GENERATOR → LOAD DISTRIBUTION

Paper White PROJ-2025-TECH-EDU - MAY 28, 2025 | PAGE 03/05

NotebookLM

CURRICULUM VERTICAL: SUSTAINABILITY

ECO-TECHNOLOGY & ENVIRONMENTAL ENGINEERING

VERTICAL FARMING

- Synthetic Biology
- Engineered Biosystems for Crop Yield
- Urban Agriculture Optimization

CLEAN ENERGY TECH

- Ecotechnology Applications
- Solar, Wind, Bioenergy
- Geothermal Systems

WATER MANAGEMENT

- Urban Supply & Sewerage
- Mining Water Management
- Pollutant Control Measures

GREEN LOGISTICS

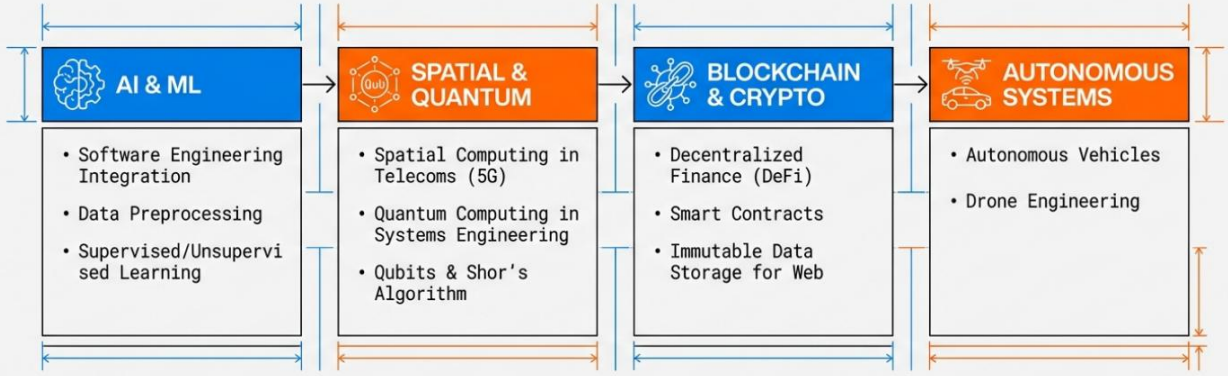
- Sustainable Transport Solutions
- Green Supply Chains
- Waste Remediation

Paper White PROJ-2025-TECH-EDU - MAY 28, 2025 | PAG

NotebookLM

CURRICULUM VERTICAL: FUTURE-TECH

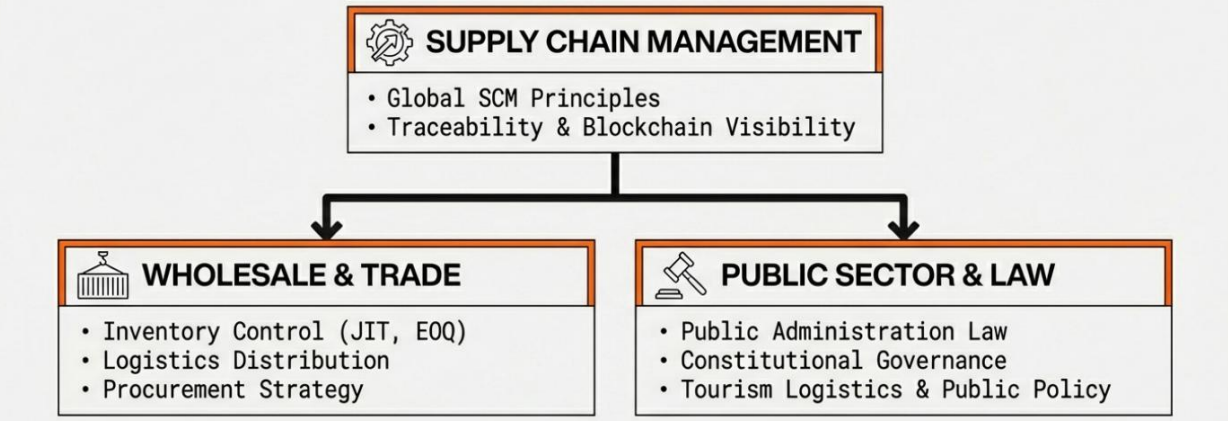
ADVANCED SYSTEMS & 4IR



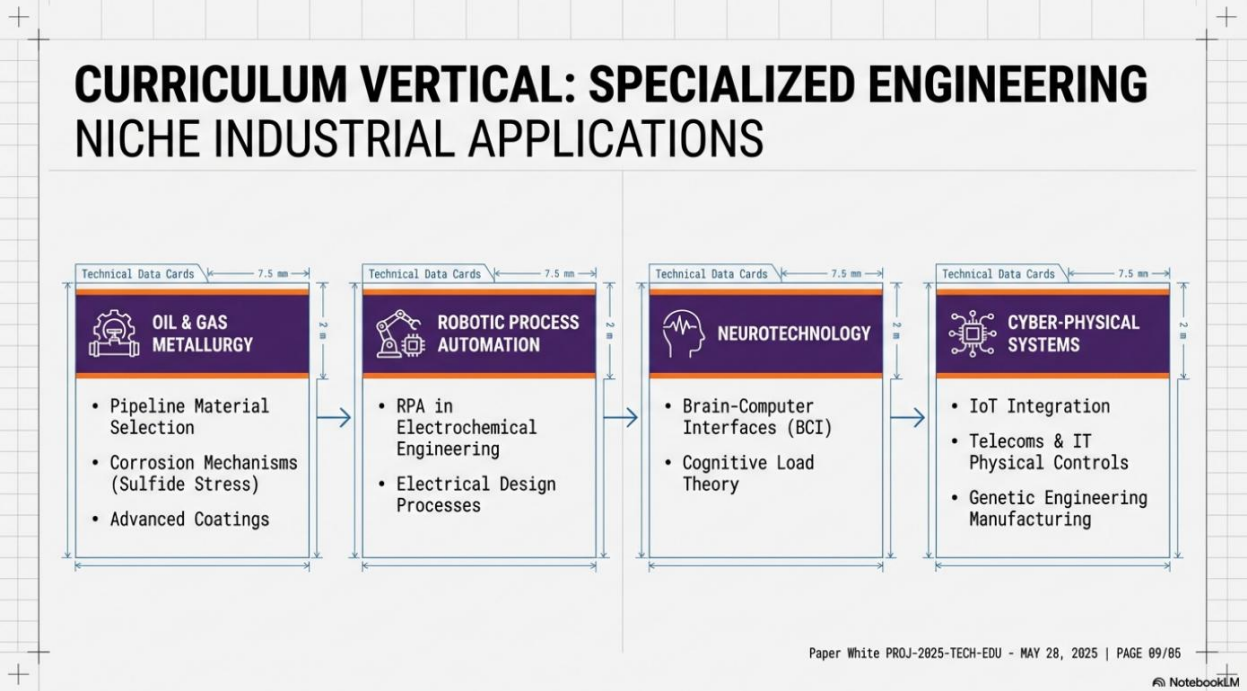
NotebookLM

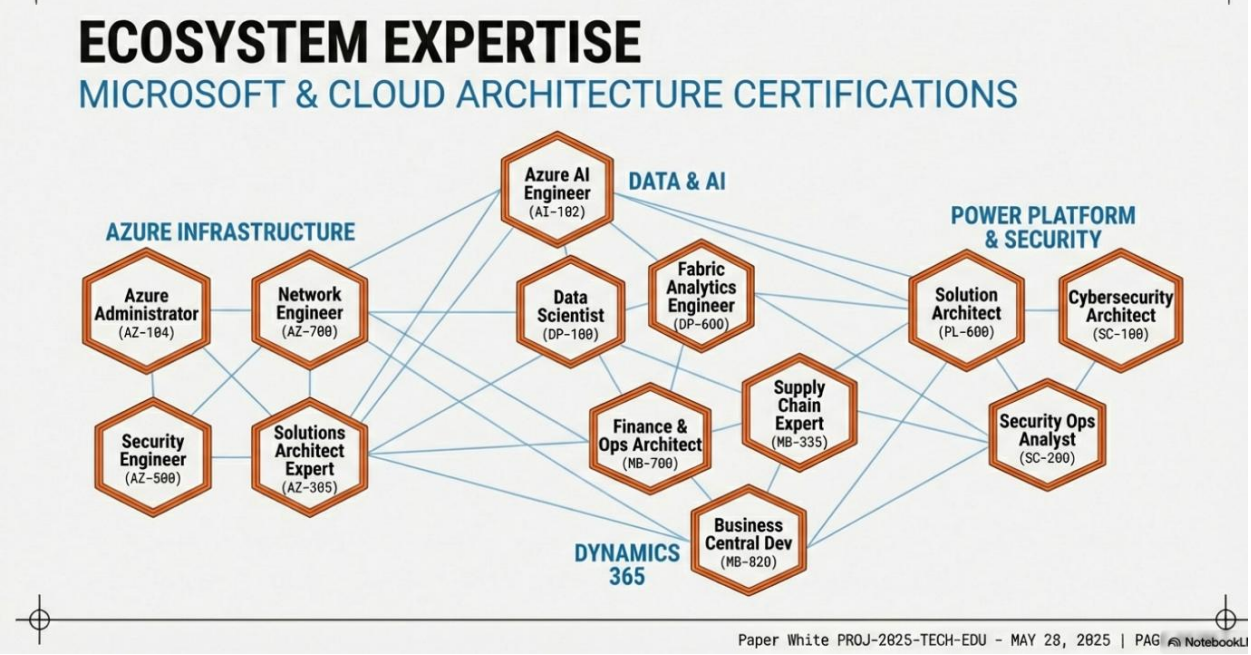
CURRICULUM VERTICAL: INDUSTRY & MANAGEMENT

OPERATIONS, LAW, AND LOGISTICS

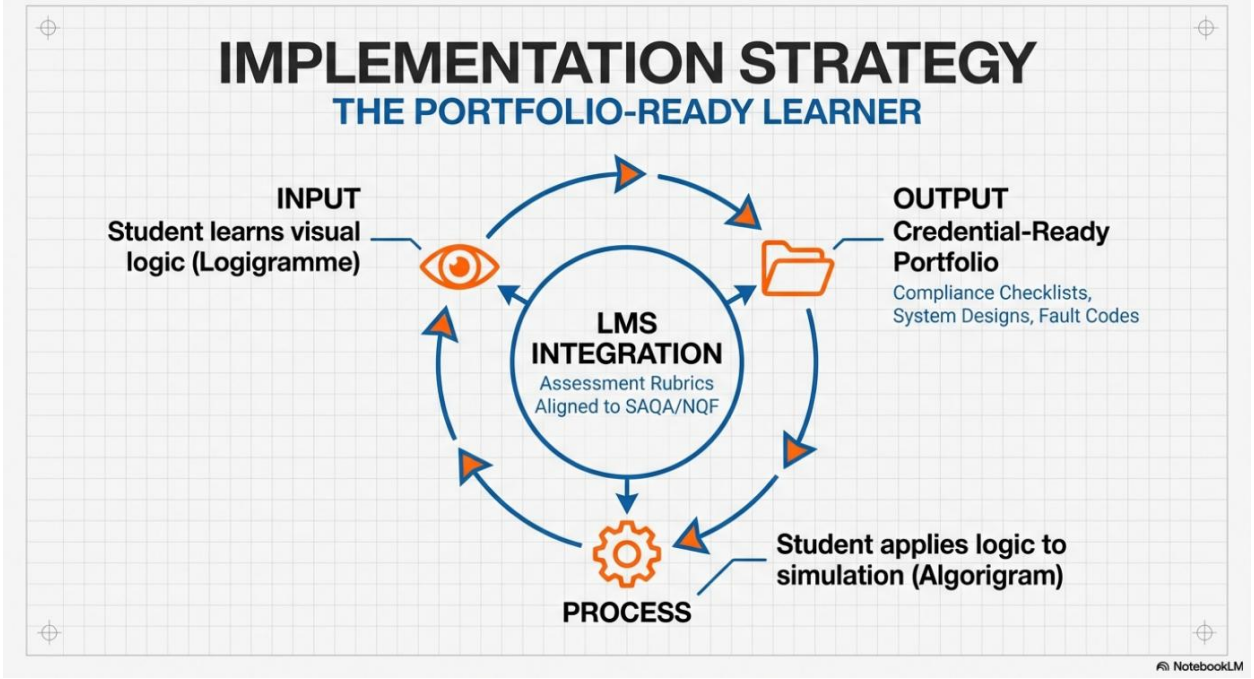


NotebookLM


CURRICULUM VERTICAL: SPECIALIZED ENGINEERING
NICHE INDUSTRIAL APPLICATIONS
Technical Data Cards
7.5 mm
OIL & GAS METALLURGY
• Pipeline Material Selection
• Corrosion Mechanisms (Sulfide Stress)
• Advanced Coatings
ROBOTIC PROCESS AUTOMATION
• RPA in Electrochemical Engineering
• Electrical Design Processes
NEUROTECHNOLOGY
• Brain-Computer Interfaces (BCI)
• Cognitive Load Theory
CYBER-PHYSICAL SYSTEMS
• IoT Integration
• Telecoms & IT Physical Controls
• Genetic Engineering Manufacturing
Paper White PROJ-2025-TECH-EDU - MAY 28, 2025 | PAGE 09/85
NotebookLM


ECOSYSTEM EXPERTISE
MICROSOFT & CLOUD ARCHITECTURE CERTIFICATIONS
AZURE INFRASTRUCTURE
DATA & AI
POWER PLATFORM & SECURITY
DYNAMICS 365
Azure Administrator (AZ-104)
Network Engineer (AZ-700)
Security Engineer (AZ-500)
Solutions Architect Expert (AZ-305)
Azure AI Engineer (AI-102)
Data Scientist (DP-100)
Fabric Analytics Engineer (DP-600)
Finance & Ops Architect (MB-700)
Supply Chain Expert (MB-335)
Business Central Dev (MB-820)
Solution Architect (PL-600)
Cybersecurity Architect (SC-100)
Security Ops Analyst (SC-200)
Paper White PROJ-2025-TECH-EDU - MAY 28, 2025 | PAG
NotebookL

CONTINUOUS PROFESSIONAL DEVELOPMENT
ACTIVE TRAINING LOG (2024-2025)
MARCH 5, 2025
Technical Data Cards
Microgrid Modeling and Analysis (Eaton)
FEB 22, 2025
Technical Data Cards
Low-Voltage Switchgear (Eaton)
FEB 22, 2025
Technical Data Cards
Cables and Connectivity Sales Training
FEB 2025
Technical Data Cards
Supporting CDP Disclosure (Environmental Reporting)
LATE 2024
Technical Data Cards
Functional Skills:
Human Resources & Safety
FOCUS: Transition to Smart Grid Technologies and Environmental Compliance.
Paper White PROJ-2025-TECH-EDU - MAY 28, 2025 | PAG
NotebookLM


IMPLEMENTATION STRATEGY
THE PORTFOLIO-READY LEARNER
INPUT
Student learns visual logic (Logigramme)
OUTPUT
Credential-Ready Portfolio
Compliance Checklists, System Designs, Fault Codes
LMS INTEGRATION
Assessment Rubrics Aligned to SAQA/NQF
PROCESS
Student applies logic to simulation (Algorigram)
NotebookLM

DEVELOPING THE FUTURE OF ENGINEERING EDUCATION

A unified approach combining the precision of electrical engineering, the logic of automation, and the structure of accredited curriculum design.

TSHINGOMBE TSHITADI FISTON
Engineering & Education Technology, SAQA
Johannesburg, South Africa
Email: tshingombefiston@gmail.com

NotebookLM

A Profile in Technical Expertise & Education Design

CORE TECHNICAL EXPERTISE: ELECTRICAL & SYSTEMS ENGINEERING

Hands-On Electrical & Power Systems Design

Expertise in power distribution, microgrids, circuit logic, and system protection.

Automation & Control Systems Programming

Proficient in PLC communication, Visual Basic, and C# for system control.

Industry-Recognized Credentials & Training

Holds numerous Microsoft certifications and has completed training in specialized electrical systems.

EDUCATIONAL FRAMEWORK & CURRICULUM DESIGN

Proprietary "Drawing Analyse Design System" Framework

Integrates engineering drawing and fault diagnostics into educational modules.

Aligned with National Qualification Standards (SAQA/NQF)

Focuses on creating credential-ready portfolios and workplace competencies.

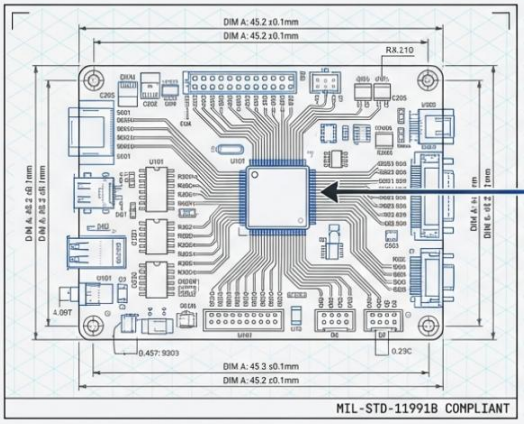
40+ ADVANCED TECHNICAL CURRICULA AUTHORED

Topics range from AI and Blockchain to Renewable Energy and Cybersecurity.

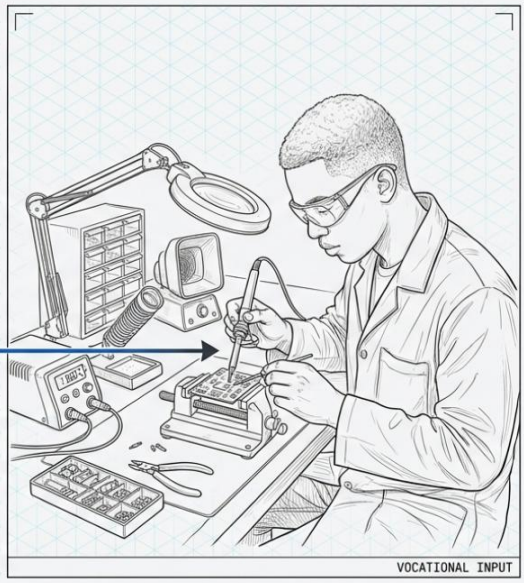
NotebookLM

ENGINEERING EXCELLENCE & WORKFORCE READINESS

Aligning the Sci-Bono Experimental Career Curriculum with MIL-STD & Industry Compliance



MIL-STD-11991B COMPLIANT



SKILL INTEGRATION FLOW PATH

VOCATIONAL INPUT

STRATEGIC PROPOSAL: DHET, SETAs, AND INDUSTRY PARTNERS

REF: MIL-SPEC-EDU-2024

NotebookLM

THE MISSION: FROM RAW POTENTIAL TO MIL-SPEC READINESS

THE LIFECYCLE APPROACH

PHASE 1: PROCUREMENT

Optimization of Client Intake. Refining the "Raw Material" via Digital Profiling.

PHASE 2: QUALIFICATION

Experimental Curriculum. Integration of Calculus N4 & Physics to meet **MIL-STD Testing**.

PHASE 3: SUSTAINMENT

Audit-Ready Documentation & Career Placement.

GAP ANALYSIS ⚠

THE GAP: Current graduates lack advanced derivation skills required for vibration analysis and circuit derating defined in **MIL-STD-11991B**.

THE SOLUTION: A rigorous, standards-based curriculum overhaul.

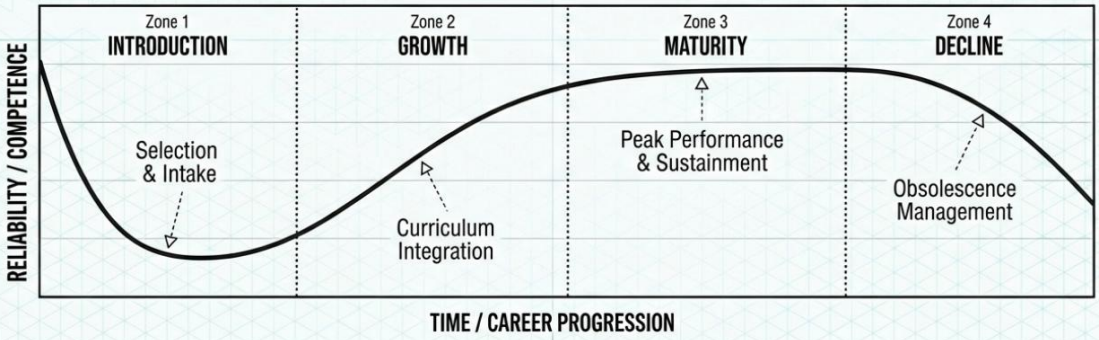
NotebookLM

SOURCE: MIL-STD-11991B (3 OCT 2023)

THE BENCHMARK: PARTS, MATERIALS, AND PROCESSES (PM&P)

SCOPE: Defines requirements for managing parts, materials, and processes across development, production, and sustainment.

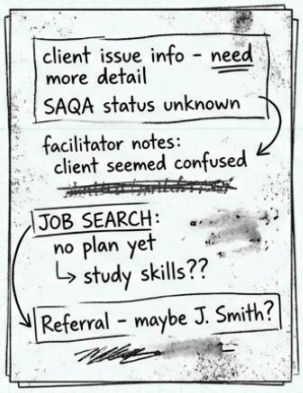
OBJECTIVE: Ensure authenticity, traceability, and reliability of the "Human Component".



NotebookLM

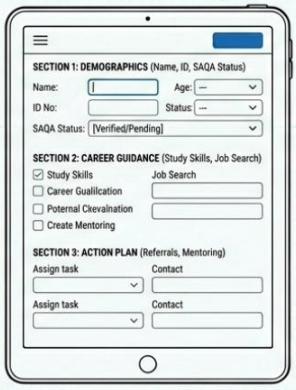
PHASE 1: OPTIMIZATION OF CLIENT INTAKE

CURRENT STATE: ANALOG CHAOS

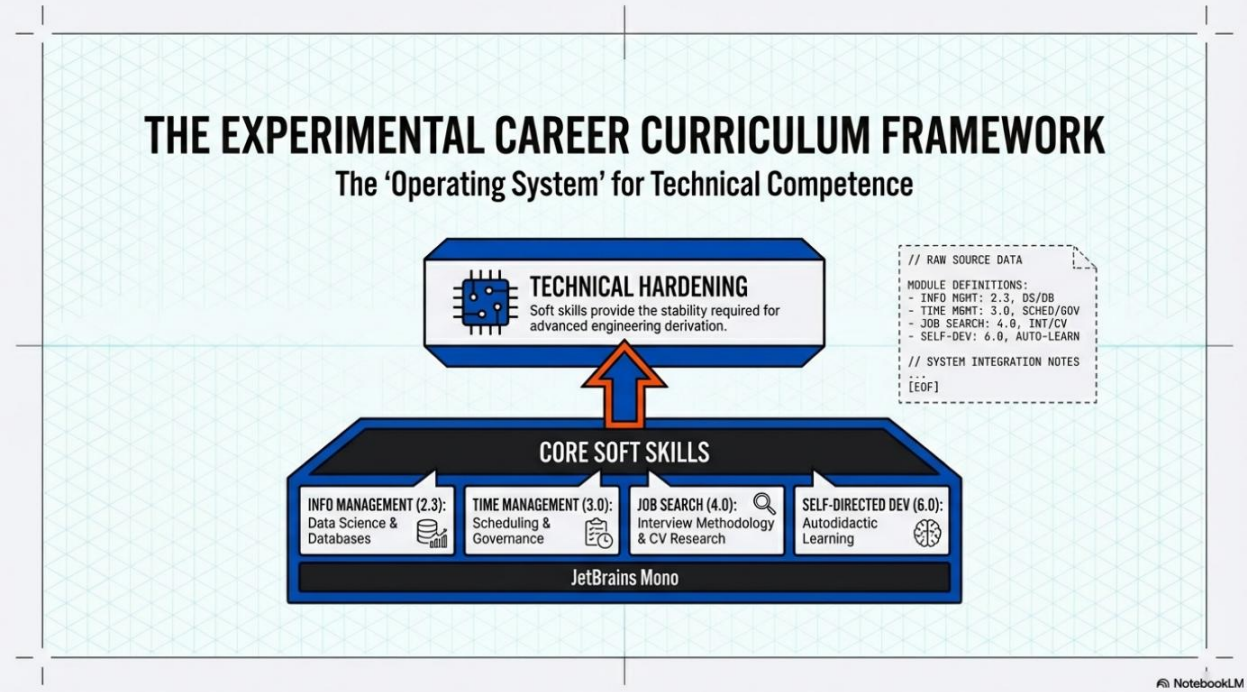

client issue info - need more detail
SAQA status unknown
facilitator notes: client seemed confused
JOB SEARCH: no plan yet
↳ study skills??
Referral - maybe J. Smith?

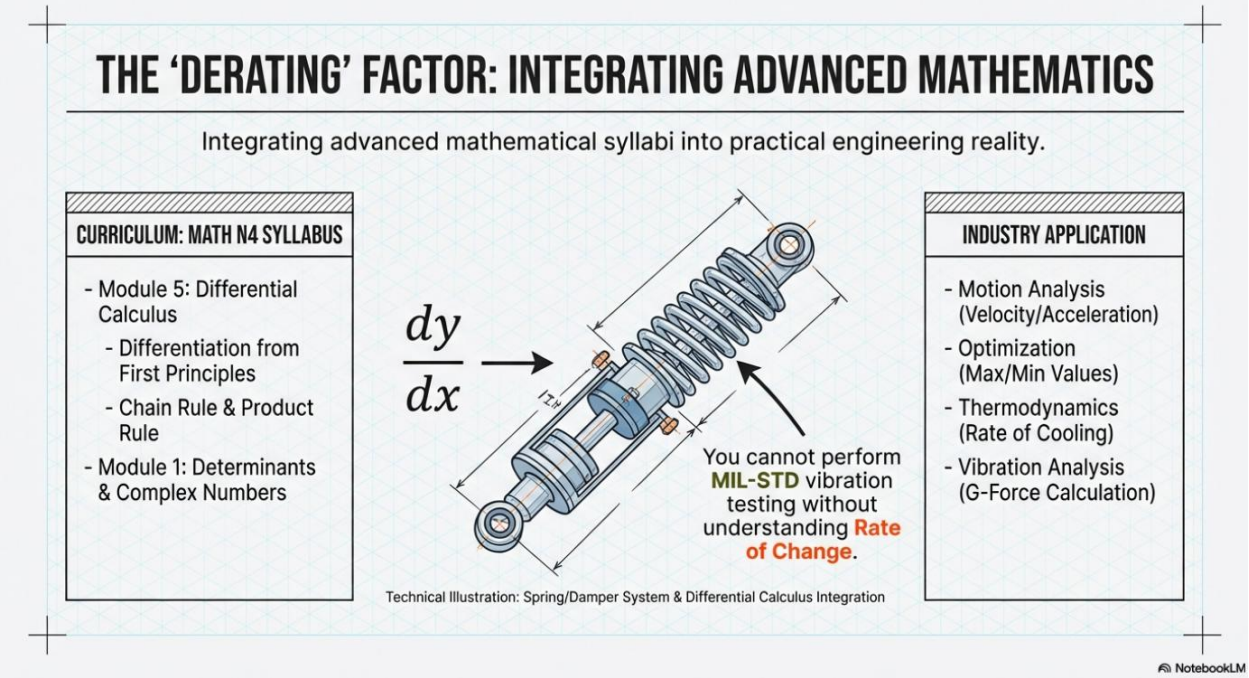
PROCESS UPGRADE:
DIGITAL TRANSFORMATION:
Efficiency & Data Integrity.

FUTURE STATE: DIGITAL VALIDATION



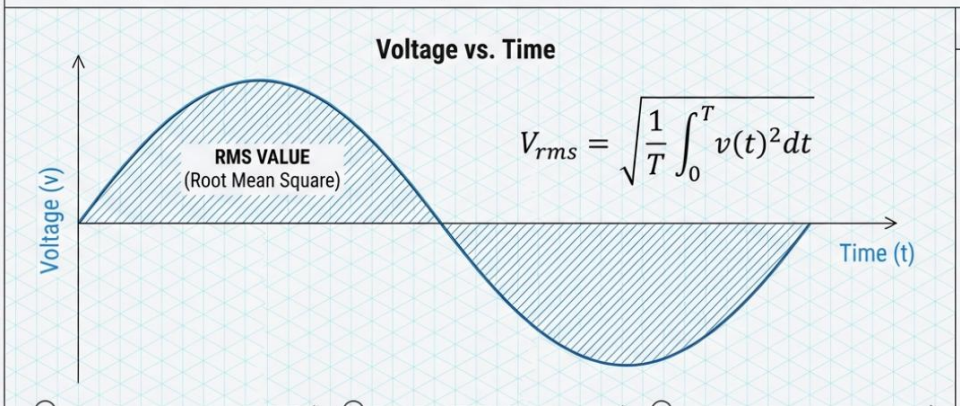
NotebookLM


THE EXPERIMENTAL CAREER CURRICULUM FRAMEWORK
The 'Operating System' for Technical Competence
TECHNICAL HARDENING
Soft skills provide the stability required for advanced engineering derivation.
// RAW SOURCE DATA
MODULE DEFINITIONS:
- INFO MGMT: 2.3, DS/DB
- TIME MGMT: 3.0, SCHED/GOV
- JOB SEARCH: 4.0, INT/CV
- SELF-DEV: 6.0, AUTO-LEARN
// SYSTEM INTEGRATION NOTES
...
[EOF]
CORE SOFT SKILLS
INFO MANAGEMENT (2.3): Data Science & Databases
TIME MANAGEMENT (3.0): Scheduling & Governance
JOB SEARCH (4.0): Interview Methodology & CV Research
SELF-DIRECTED DEV (6.0): Autodidactic Learning
JetBrains Mono
NotebookLM


THE 'DERATING' FACTOR: INTEGRATING ADVANCED MATHEMATICS
Integrating advanced mathematical syllabi into practical engineering reality.
CURRICULUM: MATH N4 SYLLABUS
- Module 5: Differential Calculus
- Differentiation from First Principles
- Chain Rule & Product Rule
- Module 1: Determinants & Complex Numbers
$\frac{dy}{dx}$
You cannot perform MIL-STD vibration testing without understanding Rate of Change.
INDUSTRY APPLICATION
- Motion Analysis (Velocity/Acceleration)
- Optimization (Max/Min Values)
- Thermodynamics (Rate of Cooling)
- Vibration Analysis (G-Force Calculation)
Technical Illustration: Spring/Damper System & Differential Calculus Integration
NotebookLM

CALCULUS IN ELECTROTECHNOLOGY: INTEGRAL APPLICATIONS

Integrating advanced mathematical syllabi into practical engineering reality.



N4 MODULE 2 INTEGRATION

POWER CALCULATION: Total energy consumption (Area under power-time curve).

N4 MODULE 2 INTEGRATION

CAPACITORS: Energy storage ($W = \int V\, dq$).

N4 MODULE 2 INTEGRATION

STRUCTURAL ENG: Centroids and Moments of Inertia.

DIN Next LT Pro Condensed

Direct mapping of Math N4 Module 2 to Electrical Trade Theory.

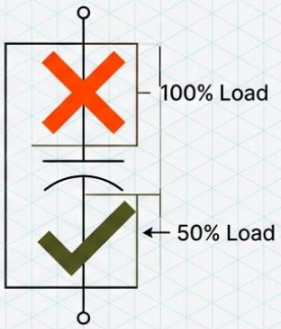
NotebookLM

TRADE-SPECIFIC MODULES: ELECTRICAL DERATING

Applying MIL-STD-11991B Safety Margins

Derating Table

COMPONENT TYPE	CRITICAL STRESS	DERATING FACTOR	MAX TEMP
Microcircuits (Digital)	Supply Voltage	0.90	N/A
Diodes	Reverse Voltage	0.60	40°C below rating
Capacitors (Ceramic)	Voltage	0.50	20°C below max
Capacitors (Alum. Electrolytic)	Voltage	NOT ALLOWED	NOT ALLOWED



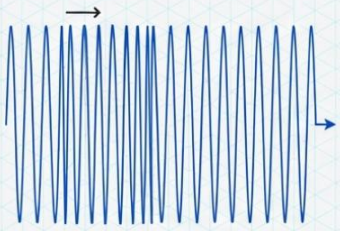
Competency Requirement: Students must calculate actual load using calculus, then apply these factors to select safe components.

NotebookLM

VERIFICATION PROTOCOLS: VIBRATION & SHOCK (MIL-STD-202G)

METHOD 204D: HIGH FREQUENCY

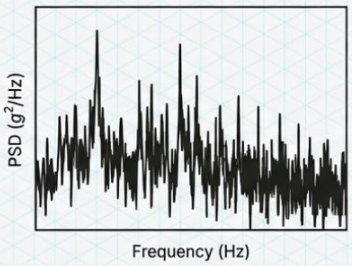
Range: 10–500 Hz up to 2000 Hz.
Application: Aircraft, Missiles, Tanks.



Application: Aircraft, Missiles, Tanks.

METHOD 214A: RANDOM VIBRATION

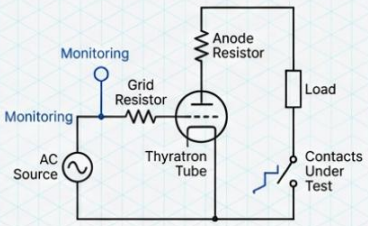
Requires understanding of Spectral Analysis and Fourier Transforms.



Requires understanding of Spectral Analysis and Fourier Transforms.

METHOD 310: CONTACT CHATTER

Monitoring momentary opening of contacts under shock.



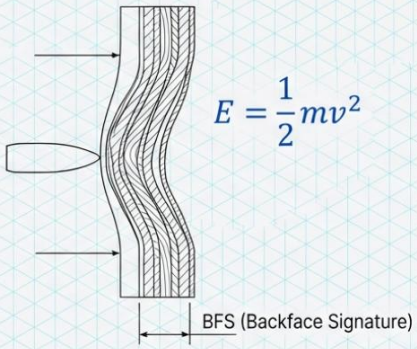
Warning: Momentary opening can trigger thyratron.

NotebookLM

BALLISTIC STANDARDS & APPLIED PHYSICS

NIJ Body Armor Classification & Testing

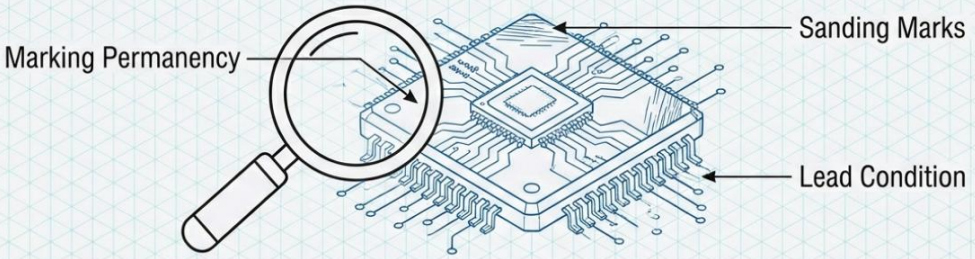
- TYPE IIA: 9mm FMJ (373 m/s)
- TYPE IIIA: .44 Magnum (436 m/s)
- TYPE III: 7.62mm Rifle (847 m/s)
- TYPE IV: .30 Cal AP (878 m/s)



Conditioning Protocol: Thermal cycling and moisture exposure required before ballistic testing.

NotebookLM

AUTHENTICITY, COUNTERFEITS, & SUPPLY CHAIN INTEGRITY



AUTHORIZED SUPPLIER
Vetted for authenticity. Direct from OCM.

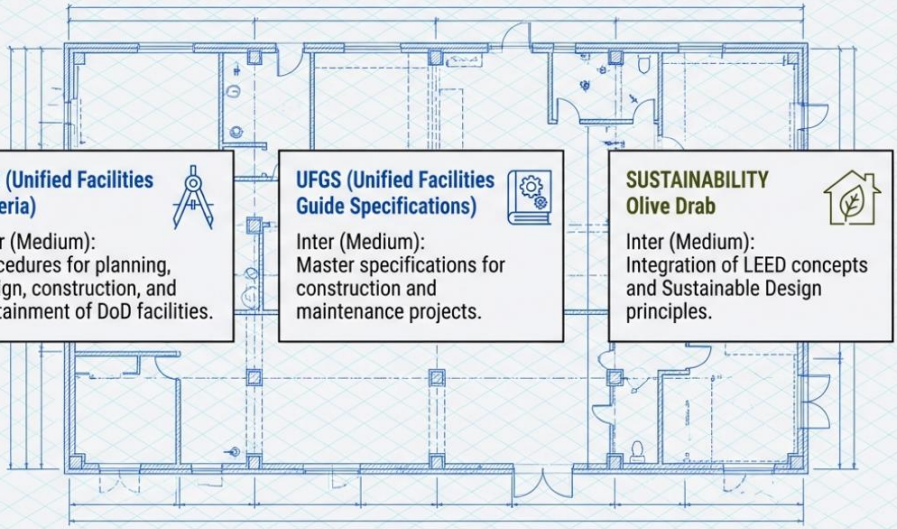
COUNTERFEIT PARTS
Unauthorized reproduction, remarked used parts, or false ID.

CERTIFICATE OF CONFORMANCE (C of C)
Mandatory documentation declaring supplies meet contract requirements.

ETHICS MODULE: Academic integrity and proper certification are the student equivalents of 'Part Authenticity'.

NotebookLM

FACILITIES CRITERIA: MIL-STD-3007F & INFRASTRUCTURE



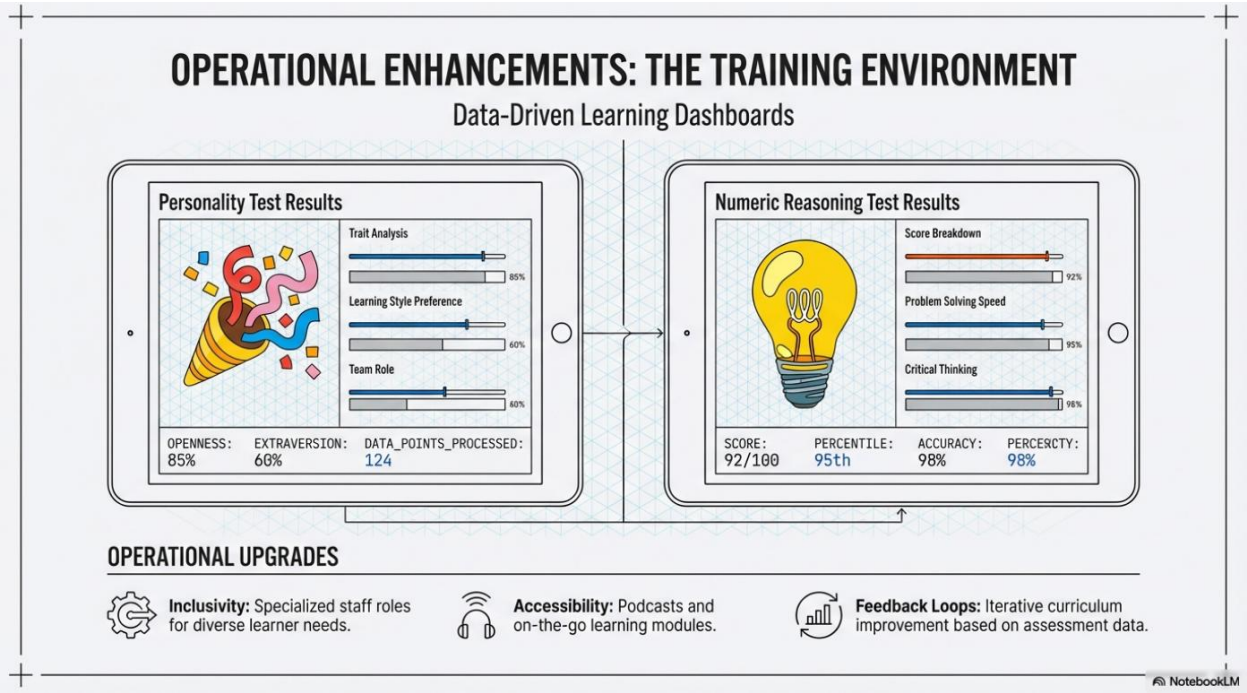
UFC (Unified Facilities Criteria)
Inter (Medium): Procedures for planning, design, construction, and sustainment of DoD facilities.

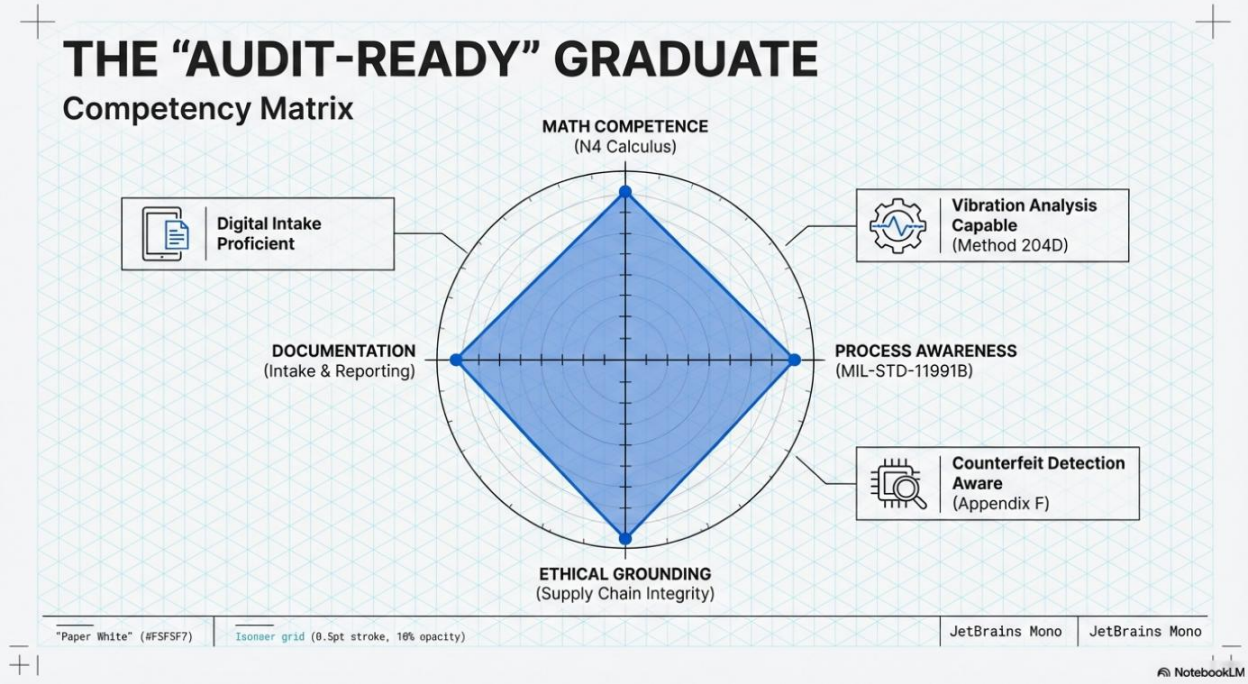
UFGS (Unified Facilities Guide Specifications)
Inter (Medium): Master specifications for construction and maintenance projects.

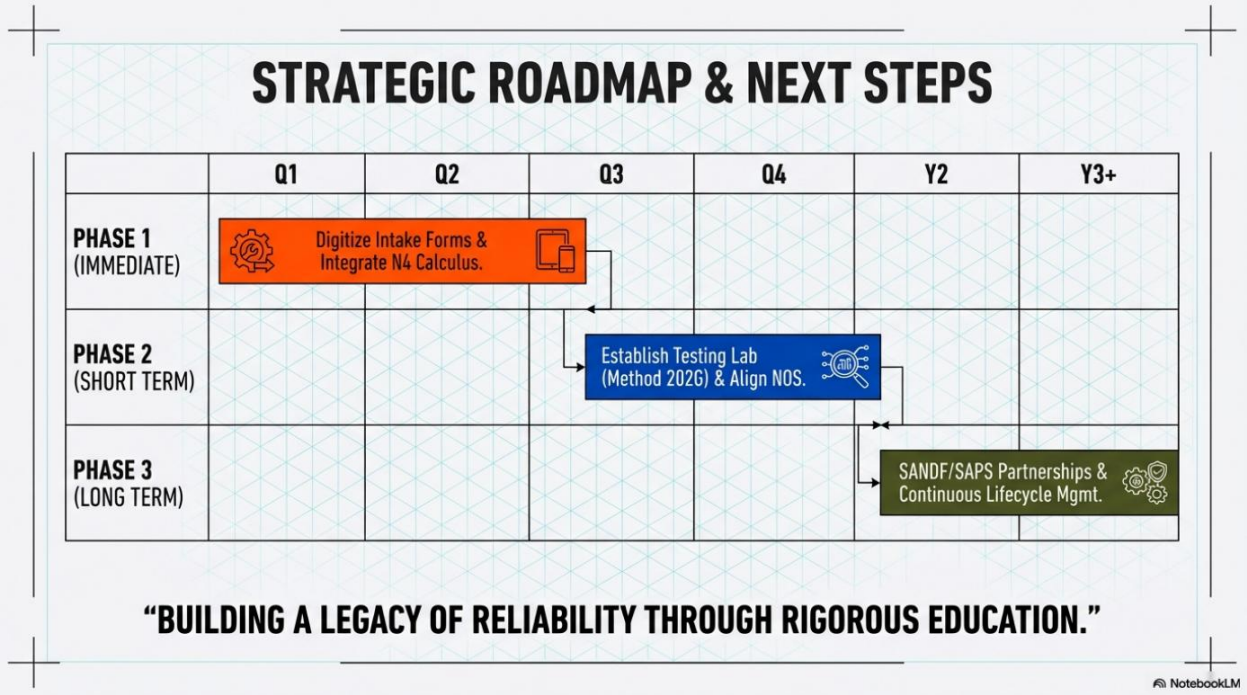
SUSTAINABILITY
Olive Drab
Inter (Medium): Integration of LEED concepts and Sustainable Design principles.

RELEVANCE
Olive Drab
Inter (Regular): Graduates will maintain the facilities governed by these standards (HVAC, Power, Security).

NotebookLM


OPERATIONAL ENHANCEMENTS: THE TRAINING ENVIRONMENT
Data-Driven Learning Dashboards
Personality Test Results
Trait Analysis
85%
Learning Style Preference
60%
Team Role
60%
OPENNESS: 85%
EXTRAVERSION: 60%
DATA_POINTS_PROCESSED: 124
Numeric Reasoning Test Results
Score Breakdown
92%
Problem Solving Speed
95%
Critical Thinking
98%
SCORE: 92/100
PERCENTILE: 95th
ACCURACY: 98%
PERCERCTY: 98%
OPERATIONAL UPGRADES
Inclusivity: Specialized staff roles for diverse learner needs.
Accessibility: Podcasts and on-the-go learning modules.
Feedback Loops: Iterative curriculum improvement based on assessment data.
NotebookLM


THE "AUDIT-READY" GRADUATE
Competency Matrix
MATH COMPETENCE
(N4 Calculus)
Digital Intake Proficient
Vibration Analysis Capable
(Method 204D)
DOCUMENTATION
(Intake & Reporting)
PROCESS AWARENESS
(MIL-STD-11991B)
Counterfeit Detection Aware
(Appendix F)
ETHICAL GROUNDING
(Supply Chain Integrity)
"Paper White" (#FSFSF7)
Isometer grid (0.5pt stroke, 10% opacity)
JetBrains Mono
JetBrains Mono
NotebookLM


STRATEGIC ROADMAP & NEXT STEPS
Q1
Q2
Q3
Q4
Y2
Y3+
PHASE 1
(IMMEDIATE)
Digitize Intake Forms & Integrate N4 Calculus.
PHASE 2
(SHORT TERM)
Establish Testing Lab (Method 202G) & Align NOS.
PHASE 3
(LONG TERM)
SANDF/SAPS Partnerships & Continuous Lifecycle Mgmt.
"BUILDING A LEGACY OF RELIABILITY THROUGH RIGOROUS EDUCATION."
NotebookLM

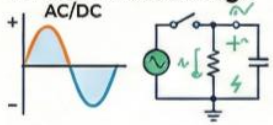
Building a Technical Career: From Classroom to Compliance

The Educational Foundation

Master Core Career Skills

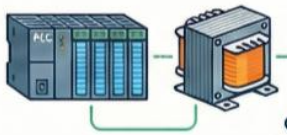
Build a professional foundation with study skills, time management, and job search techniques.

Build Foundational Technical Knowledge



Build Foundational

Core subjects include AC/DC theory, circuit analysis, and applied mathematics (e.g., NATED N4).



Develop Specialized Expertise

Advance into topics like PLCs, transformers, and fault-finding for specific industry roles.

The Industry Standard

Ensure Component Integrity & Authenticity

Standards like MIL-STD-11991B mandate strict counterfeit prevention and supply chain management.

Survive Harsh Environments

Components undergo extreme vibration, thermal shock, and moisture tests per MIL-STD-202G.

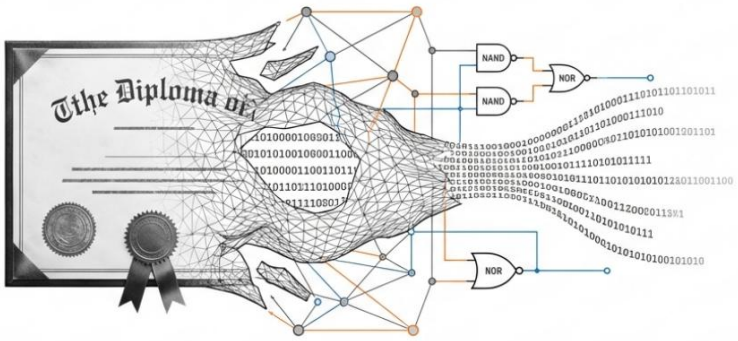
Design for Reliability Through Derating

Operating parts below their max ratings (e.g., 80% voltage) dramatically improves lifespan.

NotebookLM

THE AUDITABLE CAREER

A Blueprint for Transdisciplinary Mastery

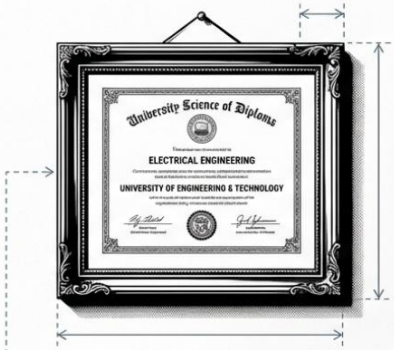


- **CASE STUDY:** TSHINGOMBE TSHITADI
- **STATUS:** VERIFIED
- **DOCUMENTS:** 140+ CERTIFICATES / VBA TOOLKIT / MIL-STD AUDITS

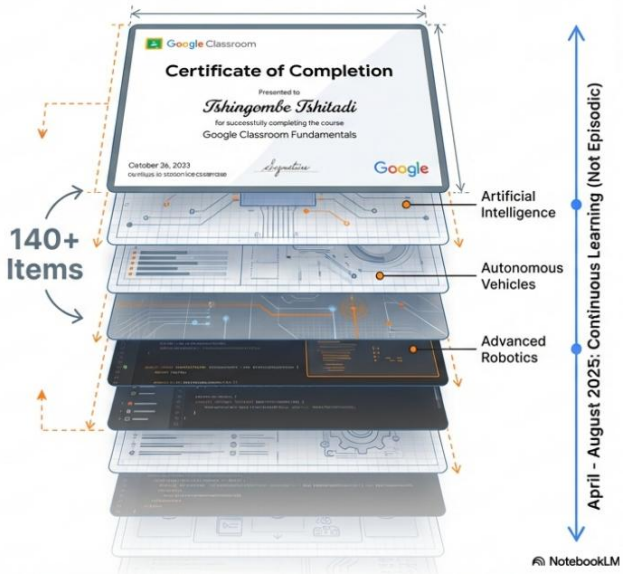
From Vocational Foundations to AI-Driven Compliance.

NotebookLM

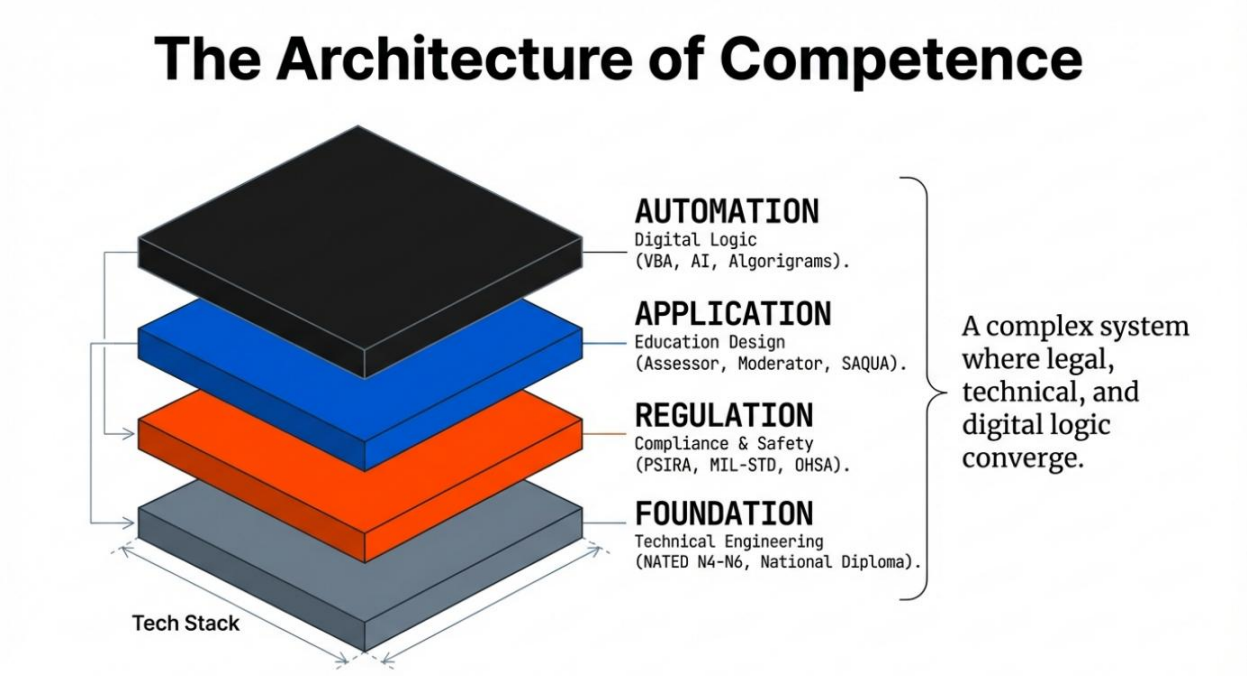
The Diploma is Just the Tip of the Iceberg

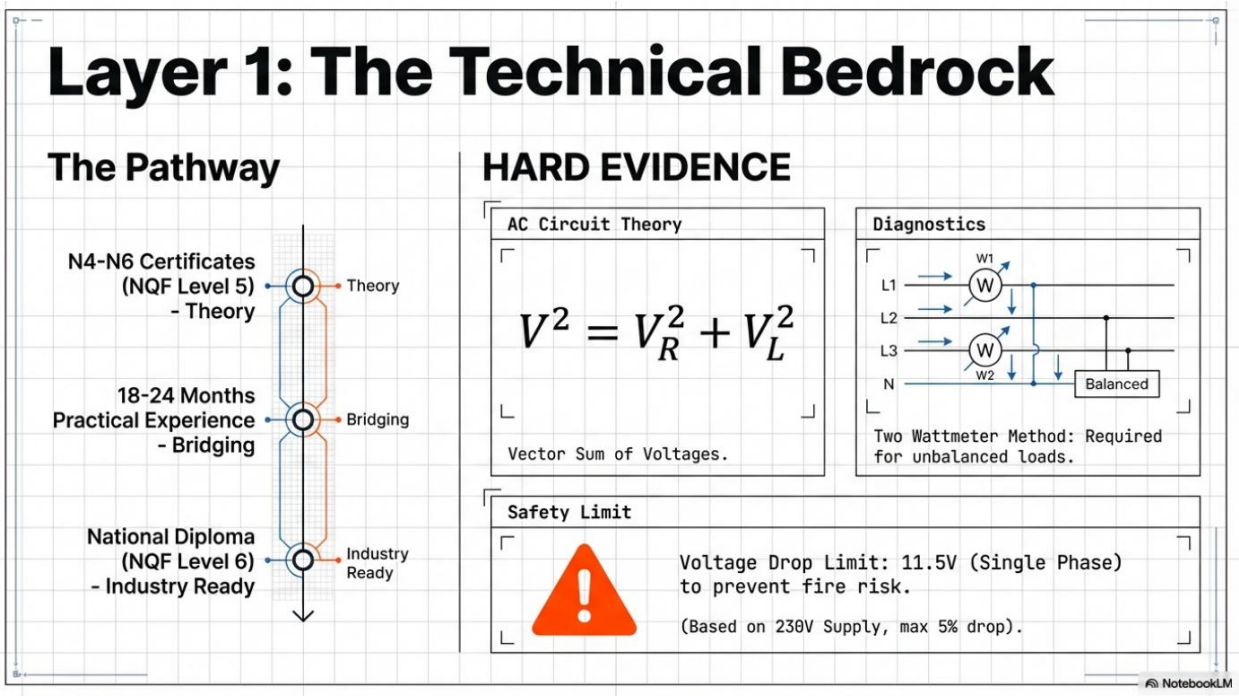


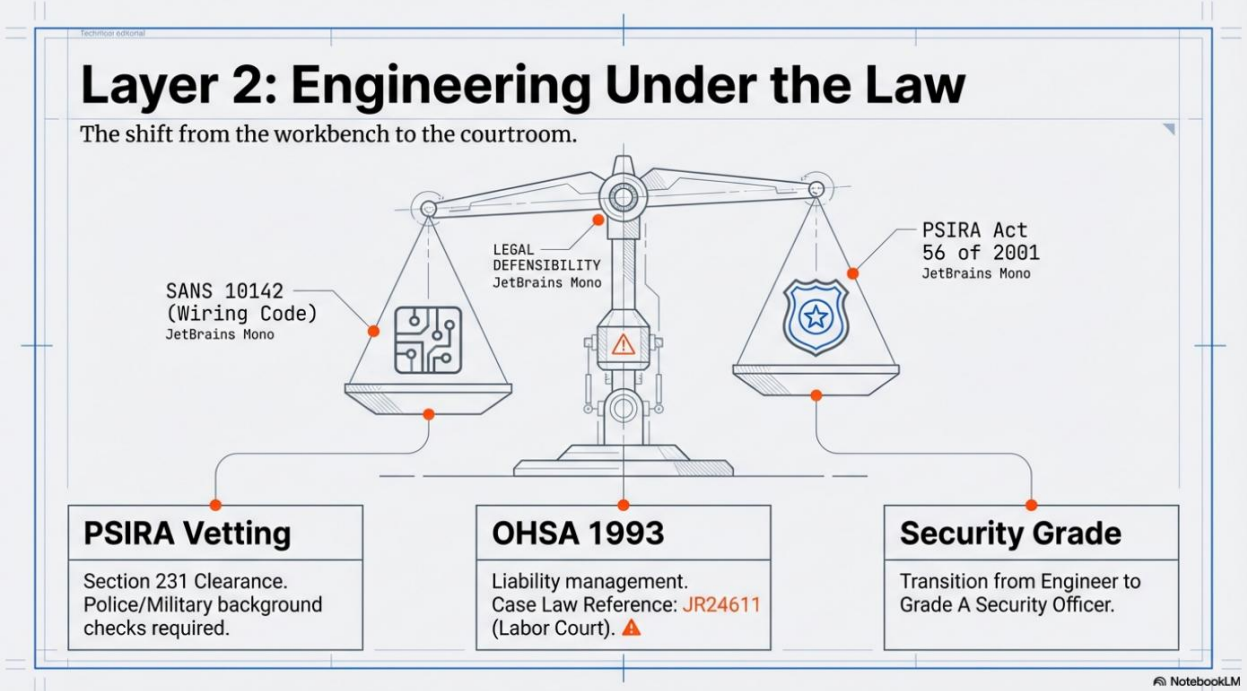
The Static View: 1 Diploma (Electrical Engineering).

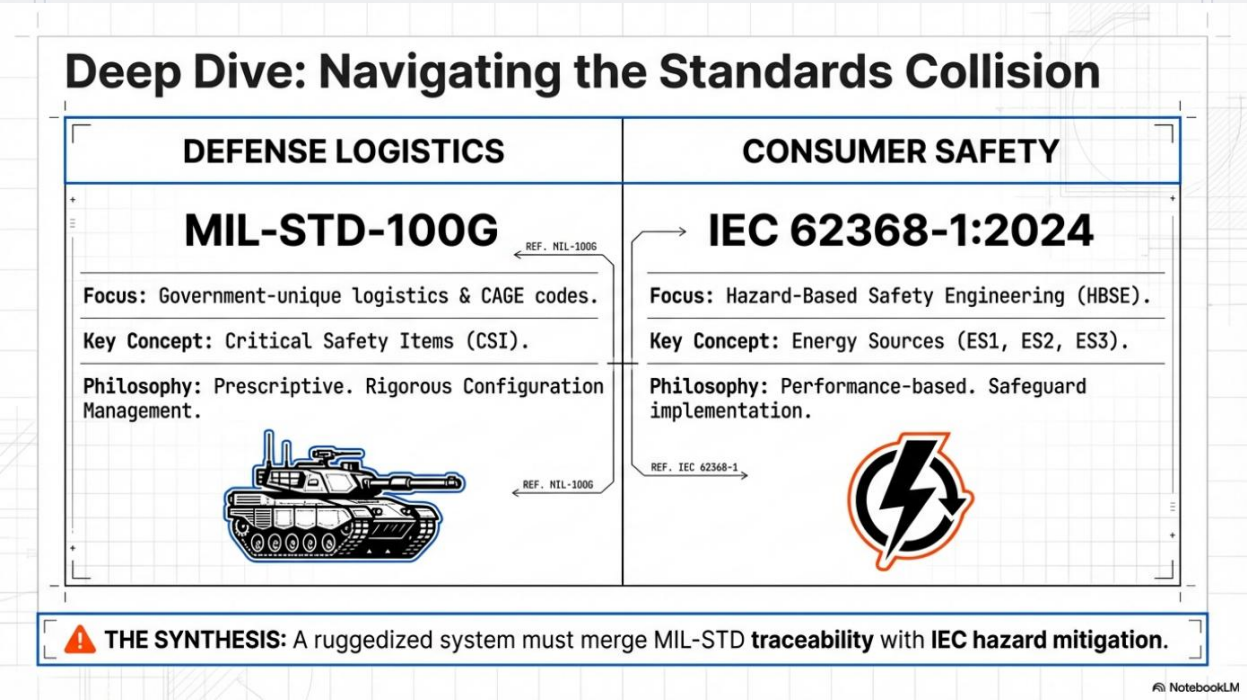


NotebookLM

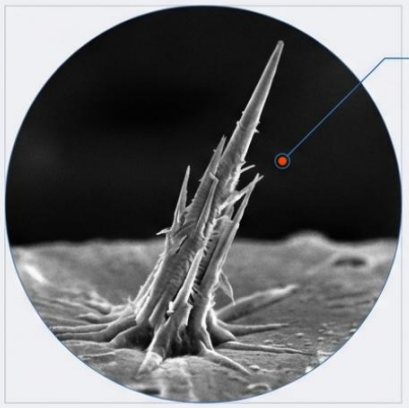

The Architecture of Competence
AUTOMATION
Digital Logic
(VBA, AI, Algorigrams).
APPLICATION
Education Design
(Assessor, Moderator, SAQUA).
REGULATION
Compliance & Safety
(PSIRA, MIL-STD, OHSA).
FOUNDATION
Technical Engineering
(NATED N4-N6, National Diploma).
Tech Stack
A complex system where legal, technical, and digital logic converge.
NotebookLM


Layer 1: The Technical Bedrock
The Pathway
N4-N6 Certificates
(NQF Level 5)
- Theory
Theory
18-24 Months
Practical Experience
- Bridging
Bridging
National Diploma
(NQF Level 6)
- Industry Ready
Industry Ready
HARD EVIDENCE
AC Circuit Theory
$V^2 = V_R^2 + V_L^2$
Vector Sum of Voltages.
Diagnostics
W1
L1
L2
L3
N
W
W2
Balanced
Two Wattmeter Method: Required for unbalanced loads.
Safety Limit
Voltage Drop Limit: 11.5V (Single Phase) to prevent fire risk.
(Based on 230V Supply, max 5% drop).
NotebookLM


Layer 2: Engineering Under the Law
The shift from the workbench to the courtroom.
SANS 10142
(Wiring Code)
JetBrains Mono
LEGAL
DEFENSIBILITY
JetBrains Mono
PSIRA Act
56 of 2001
JetBrains Mono
PSIRA Vetting
Section 231 Clearance. Police/Military background checks required.
OHSA 1993
Liability management. Case Law Reference: JR24611 (Labor Court).
Security Grade
Transition from Engineer to Grade A Security Officer.
NotebookLM


Deep Dive: Navigating the Standards Collision
DEFENSE LOGISTICS
CONSUMER SAFETY
MIL-STD-100G
IEC 62368-1:2024
REF. MIL-100G
Focus: Government-unique logistics & CAGE codes.
Key Concept: Critical Safety Items (CSI).
Philosophy: Prescriptive. Rigorous Configuration Management.
REF. MIL-100G
REF. IEC 62368-1
Focus: Hazard-Based Safety Engineering (HBSE).
Key Concept: Energy Sources (ES1, ES2, ES3).
Philosophy: Performance-based. Safeguard implementation.
THE SYNTHESIS: A ruggedized system must merge MIL-STD traceability with IEC hazard mitigation.
NotebookLM

The Physics of Compliance: MIL-STD-11991B



PROHIBITED MATERIALS LIST (PM&P)

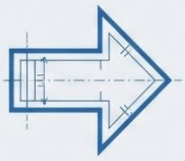
1. **Zinc Whiskers:** Cause catastrophic short circuits in high-reliability hardware.
2. **PVC Plastics:** Prohibited due to outgassing and toxic fumes.
3. **Pure Tin:** Risk of `tin pest`; requires lead alloying.
4. **Selenium Rectifiers:** Banned due to degradation.

⚠ Compliance is not just paperwork. It is understanding the chemical failure modes of hardware.

NotebookLM

Layer 3: Designing the Educational System

The Doer
(Engineering Practice)



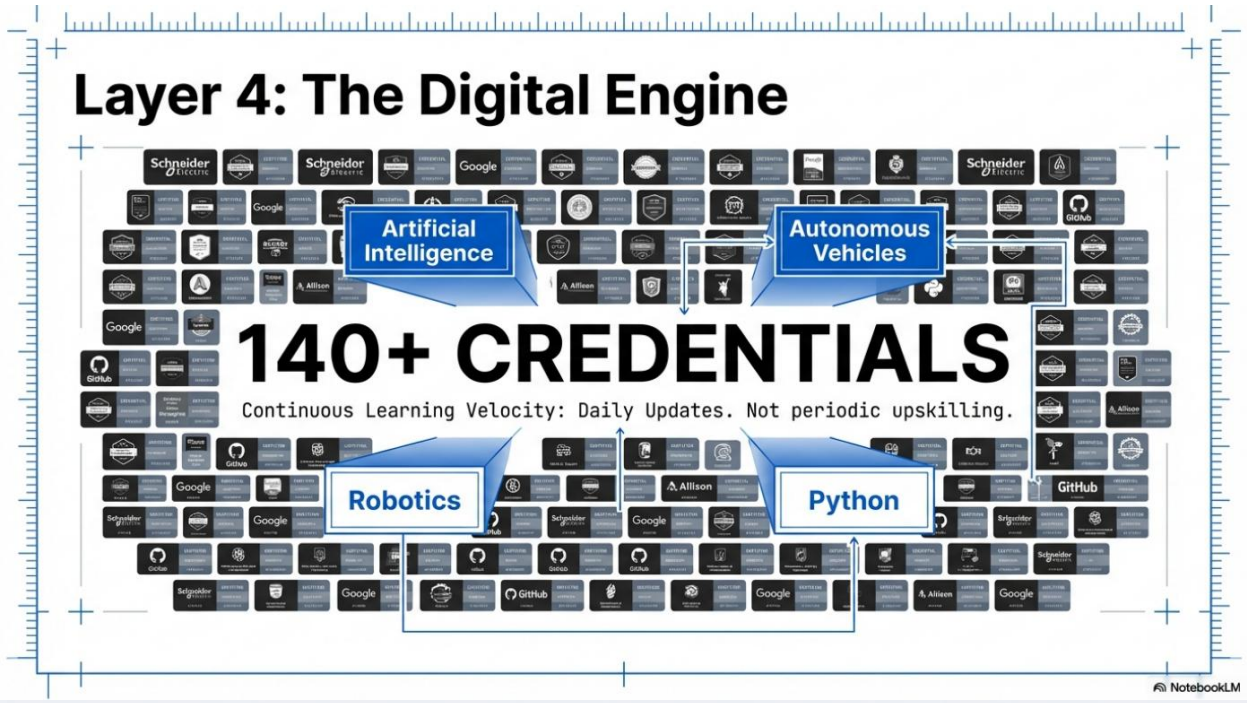
The Designer
(Curriculum & Assessment)

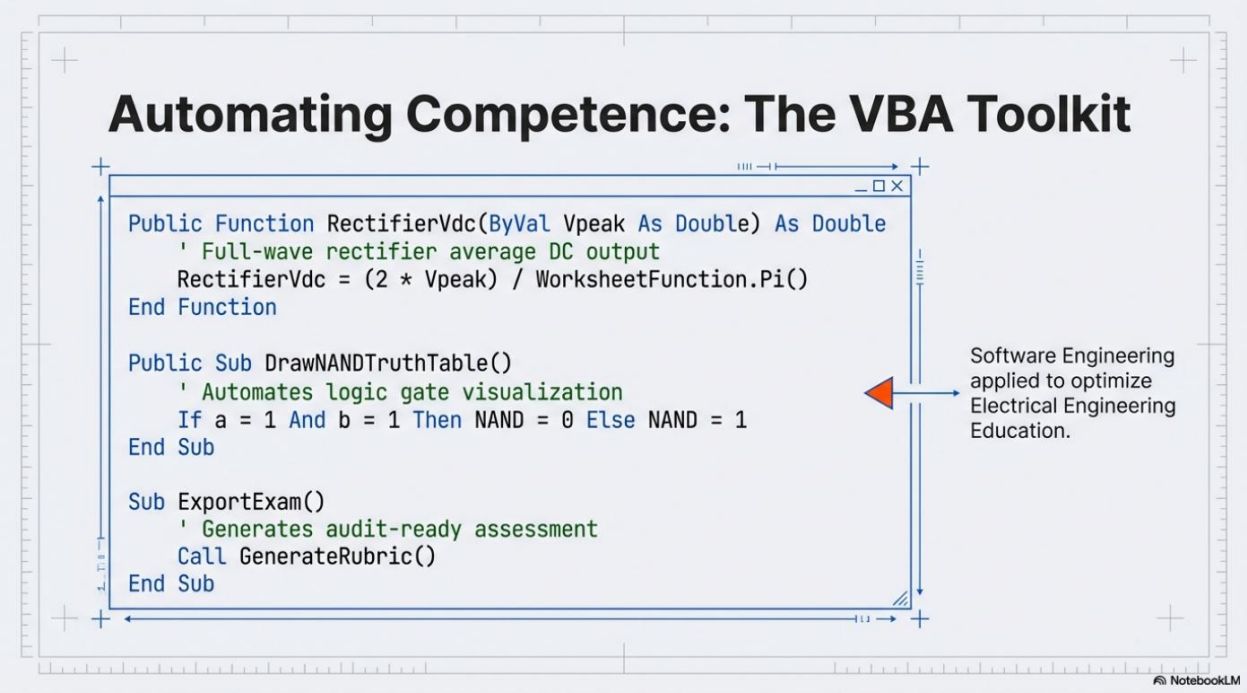
Role: Assessor & Moderator.
Authority: SAQA (South African Qualifications Authority).
Framework: NQF (National Qualifications Framework).

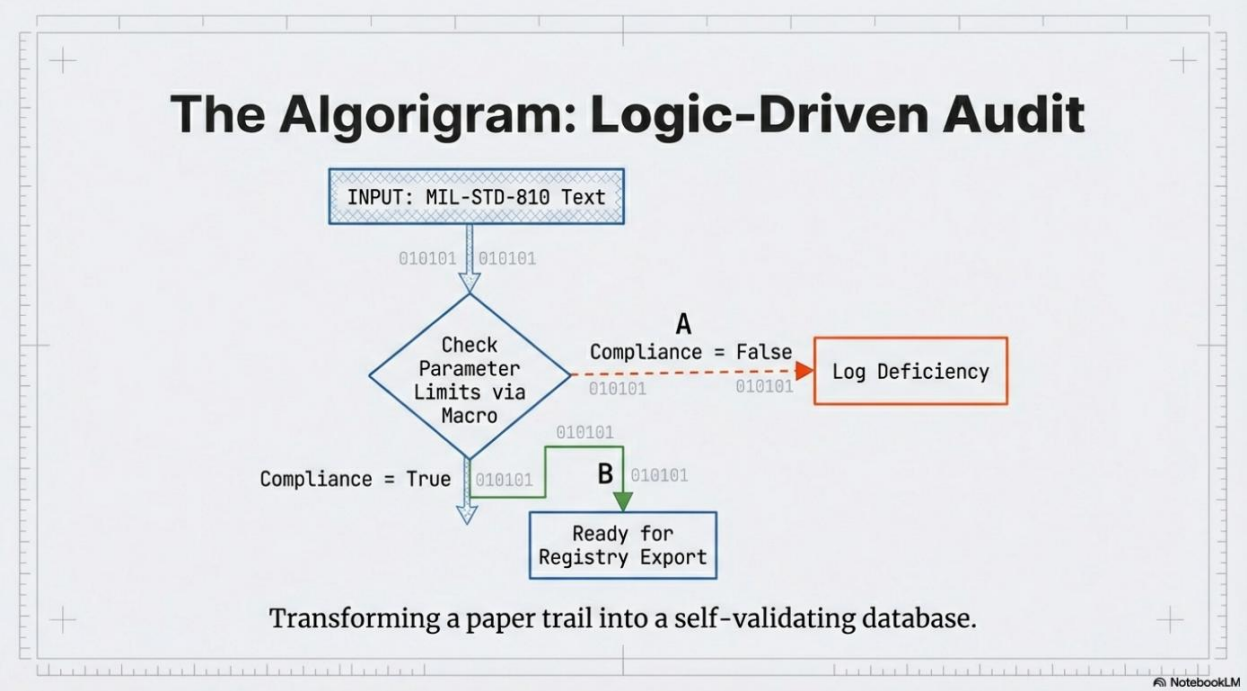
"It is one thing to master a skill; it is another to certify mastery in others."

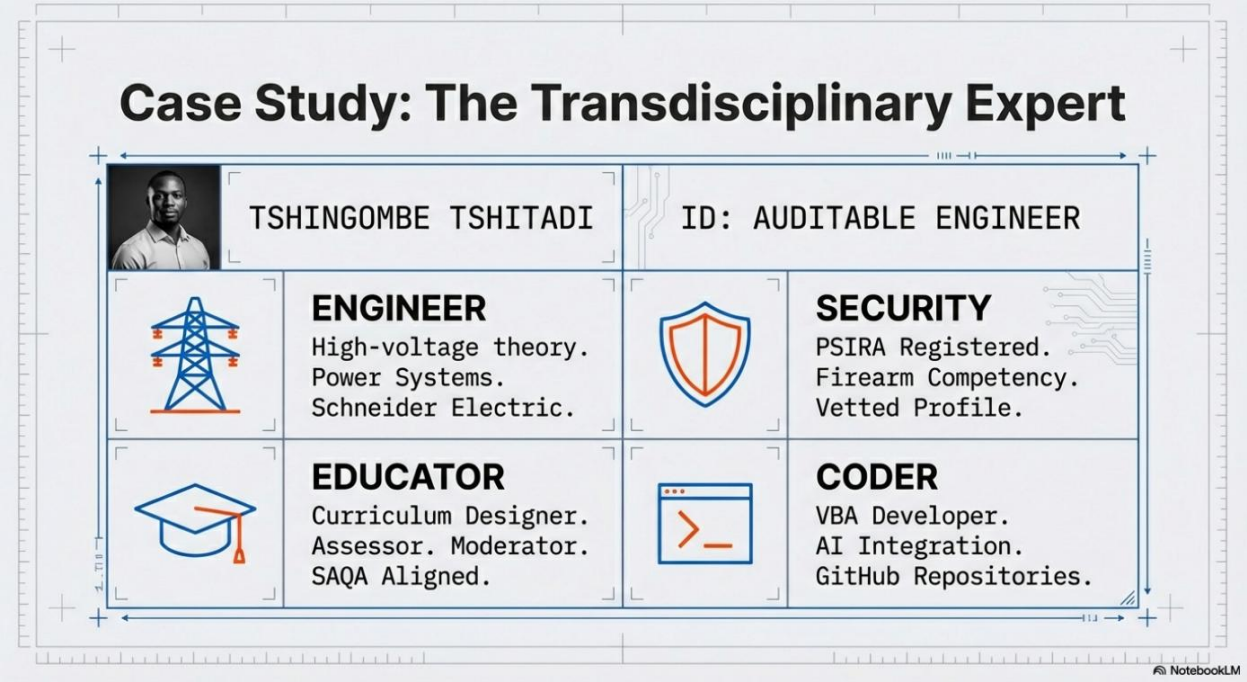
Key output:
The Didactic Report & Innovation in Trade Education.

NotebookLM

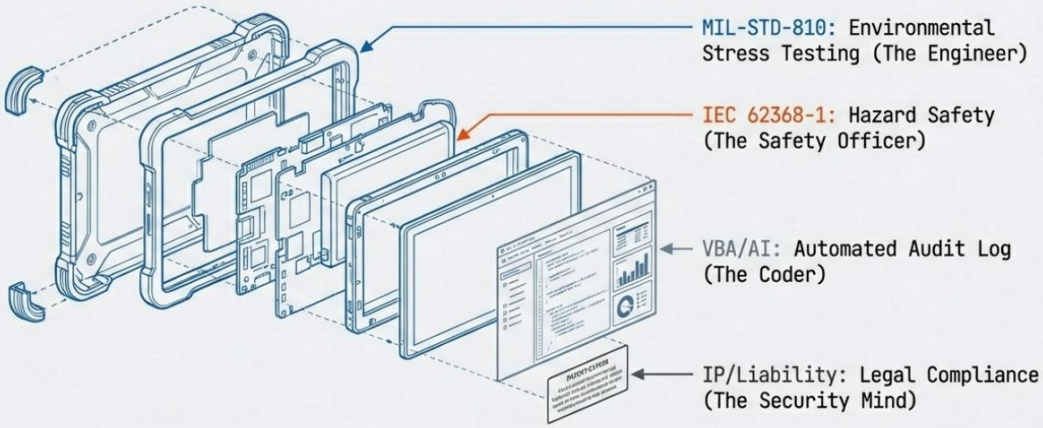

Layer 4: The Digital Engine
Artificial Intelligence
Autonomous Vehicles
140+ CREDENTIALS
Continuous Learning Velocity: Daily Updates. Not periodic upskilling.
Robotics
Python
NotebookLM


Automating Competence: The VBA Toolkit
Public Function RectifierVdc(ByVal Vpeak As Double) As Double
' Full-wave rectifier average DC output
RectifierVdc = (2 * Vpeak) / WorksheetFunction.Pi()
End Function
Public Sub DrawNANDTruthTable()
' Automates logic gate visualization
If a = 1 And b = 1 Then NAND = 0 Else NAND = 1
End Sub
Sub ExportExam()
' Generates audit-ready assessment
Call GenerateRubric()
End Sub
Software Engineering applied to optimize Electrical Engineering Education.
NotebookLM


The Algorigram: Logic-Driven Audit
INPUT: MIL-STD-810 Text
010101
010101
Check Parameter Limits via Macro
A
Compliance = False
010101
010101
Log Deficiency
010101
Compliance = True
010101
B
010101
Ready for Registry Export
Transforming a paper trail into a self-validating database.
NotebookLM


Case Study: The Transdisciplinary Expert
TSHINGOMBE TSHITADI
ID: AUDITABLE ENGINEER
ENGINEER
High-voltage theory.
Power Systems.
Schneider Electric.
SECURITY
PSIRA Registered.
Firearm Competency.
Vetted Profile.
EDUCATOR
Curriculum Designer.
Assessor. Moderator.
SAQA Aligned.
CODER
VBA Developer.
AI Integration.
GitHub Repositories.
NotebookLM

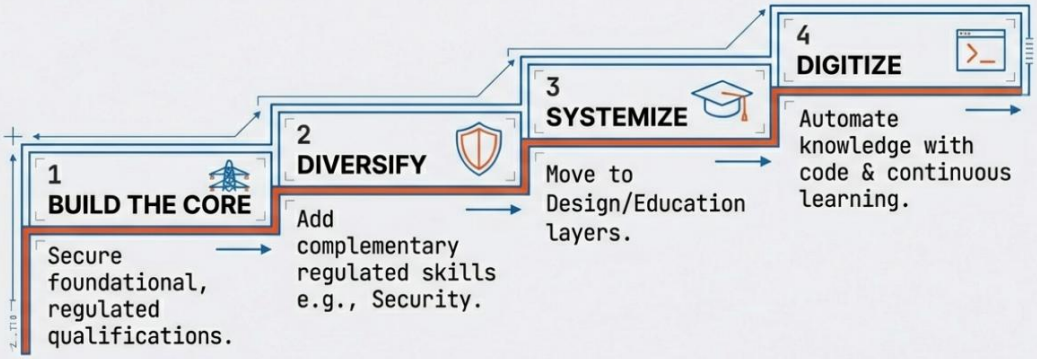
Convergence in Action


MIL-STD-810: Environmental Stress Testing (The Engineer)
IEC 62368-1: Hazard Safety (The Safety Officer)
VBA/AI: Automated Audit Log (The Coder)
IP/Liability: Legal Compliance (The Security Mind)

In complex systems, the Generalist *is* the Specialist.

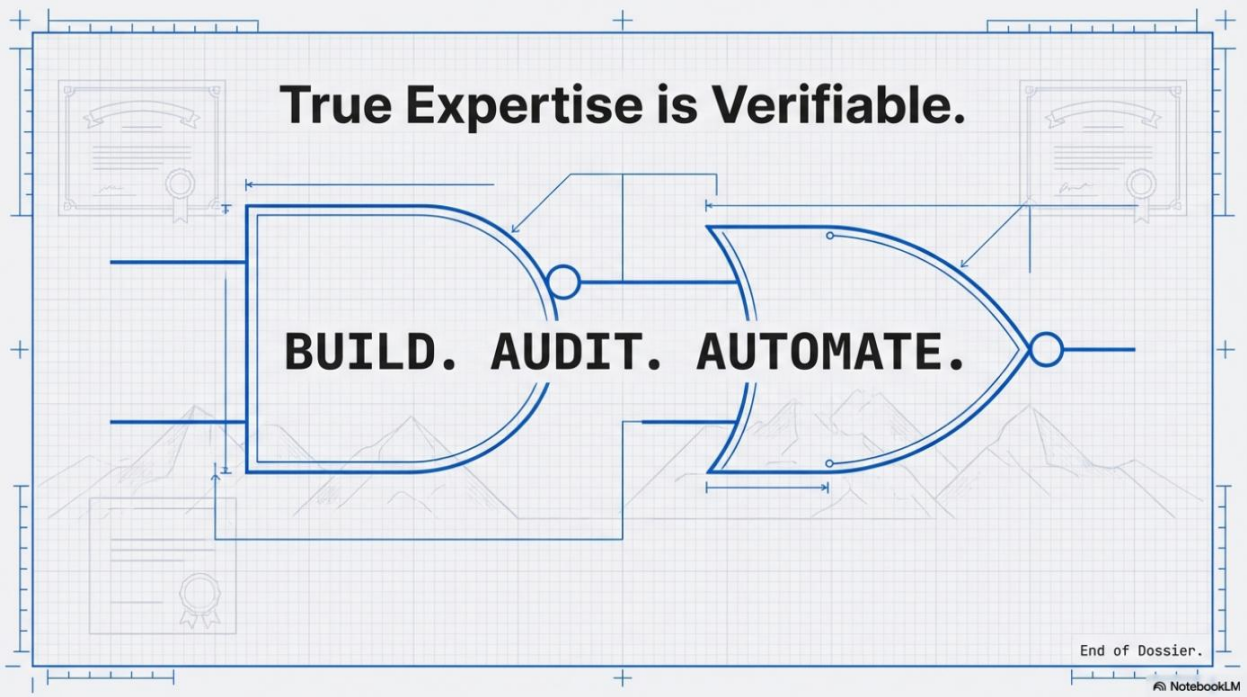
NotebookLM

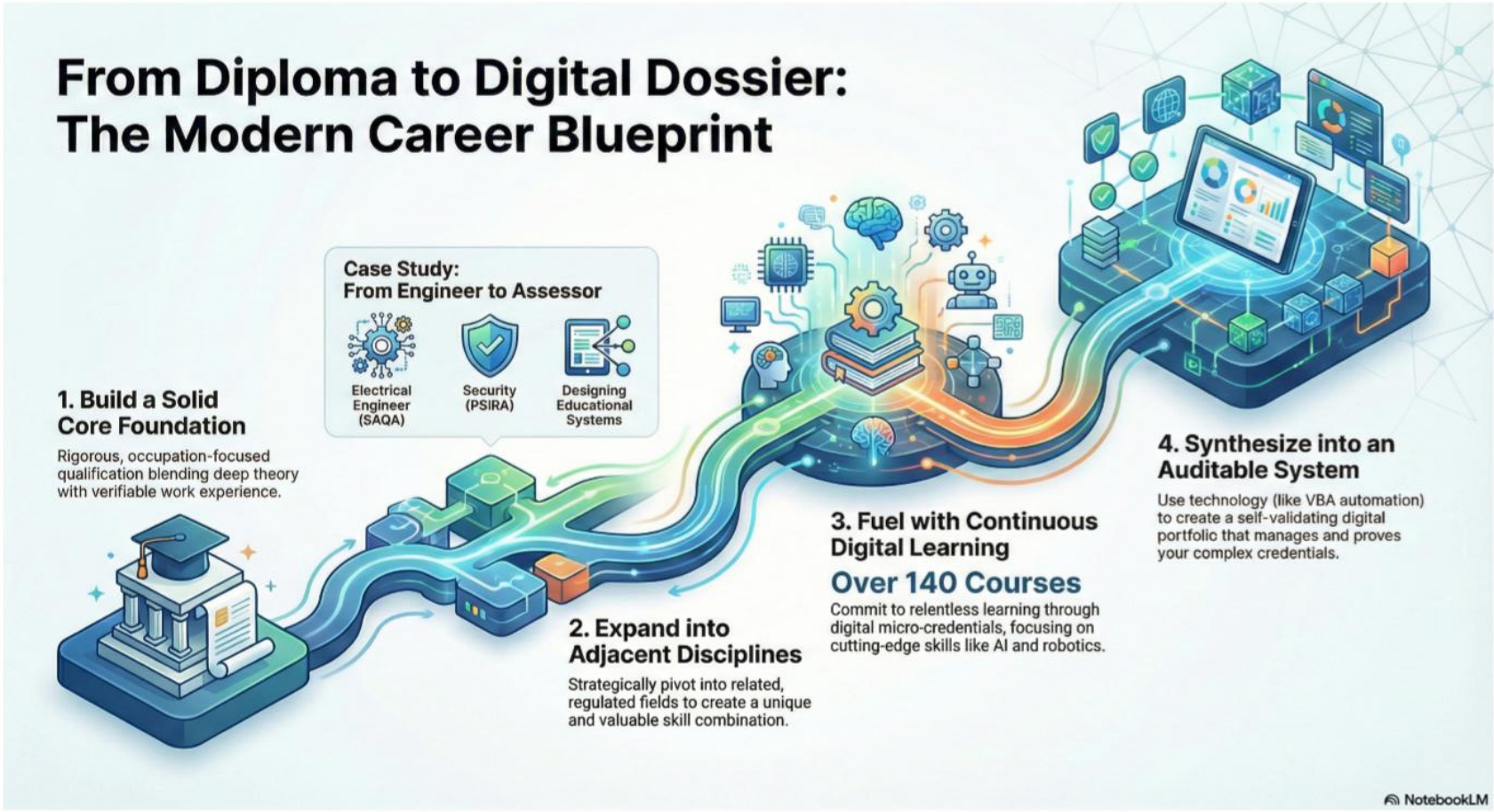
The Blueprint for an Auditable Career

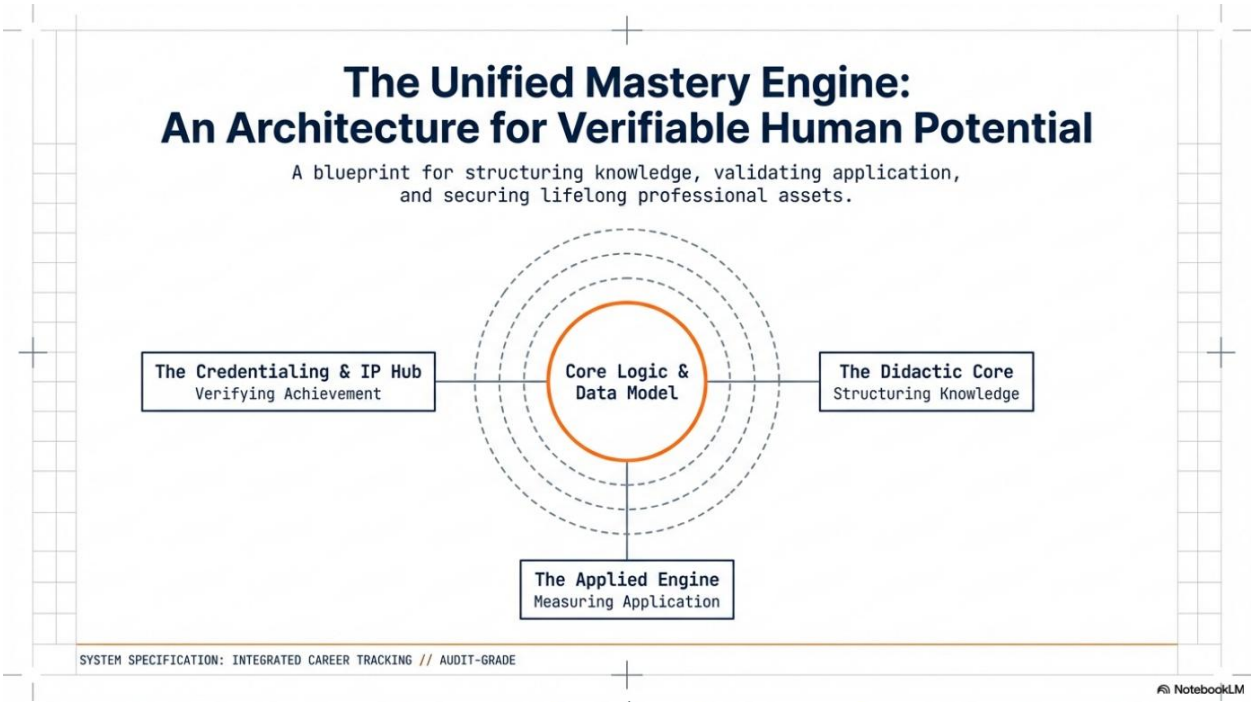


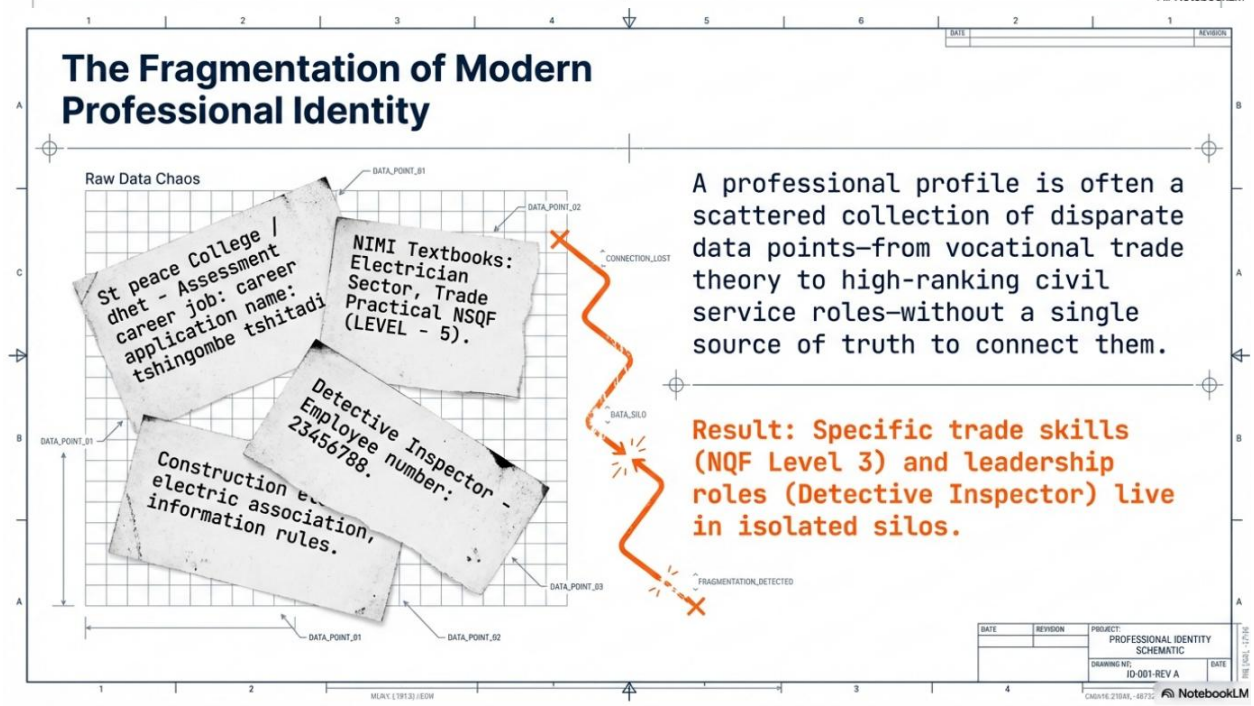
If we audited your professional paper trail today, would it tell a coherent story?

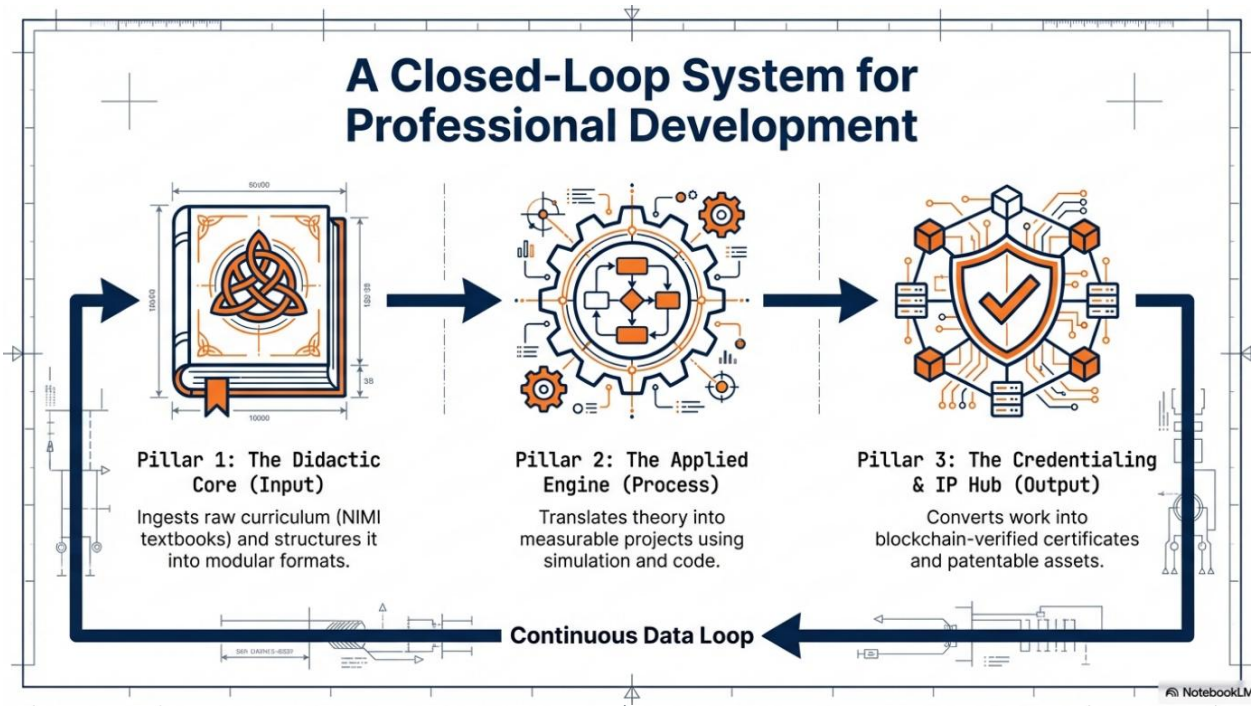
NotebookLM

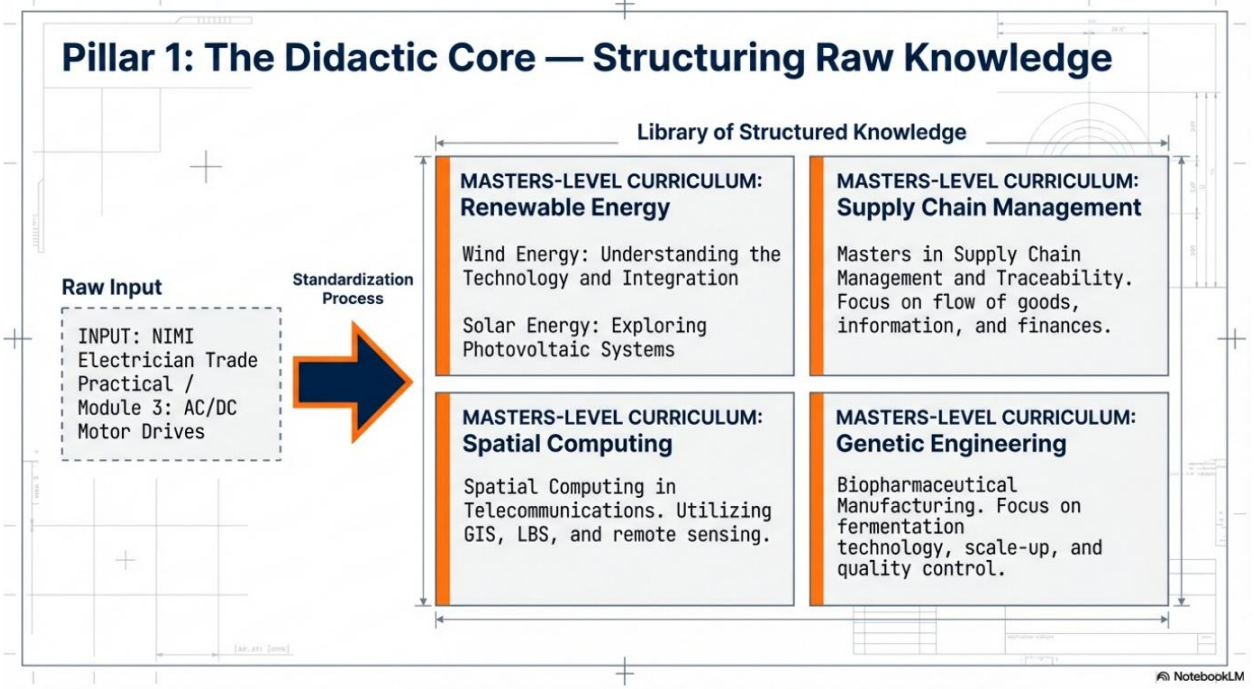

True Expertise is Verifiable.
BUILD. AUDIT. AUTOMATE.
End of Dossier.
NotebookLM

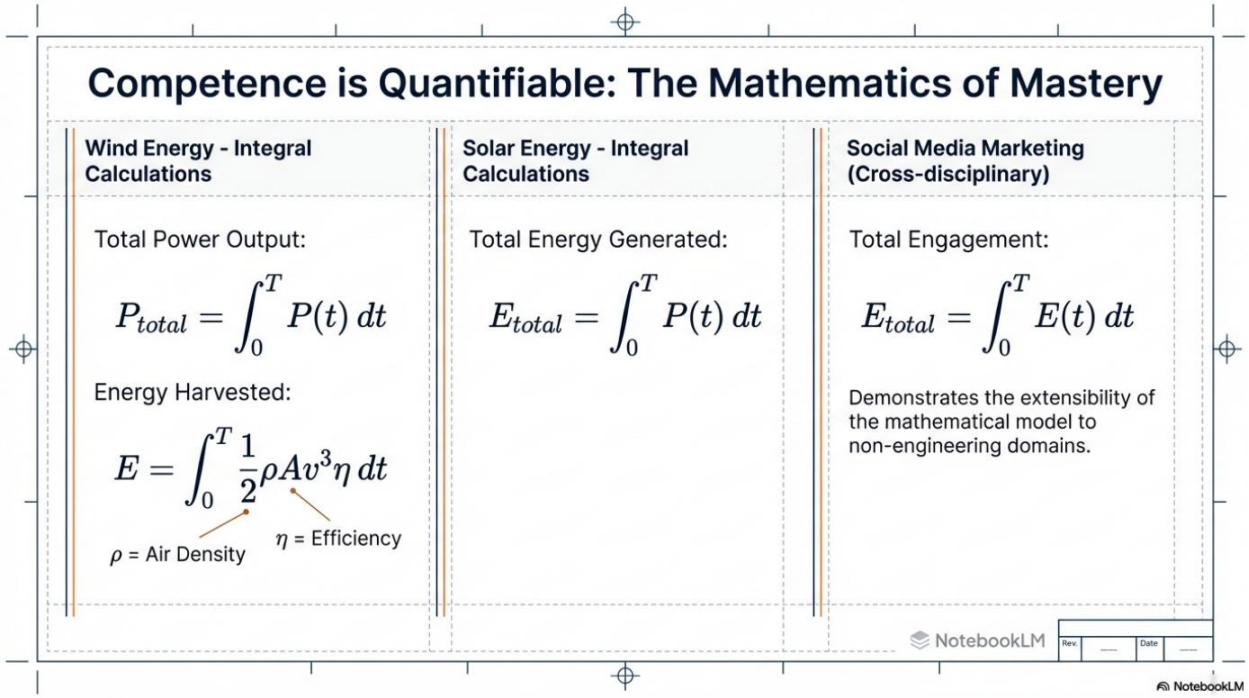

From Diploma to Digital Dossier:
The Modern Career Blueprint
Case Study:
From Engineer to Assessor
Electrical Engineer (SAQA)
Security (PSIRA)
Designing Educational Systems
1. Build a Solid Core Foundation
Rigorous, occupation-focused qualification blending deep theory with verifiable work experience.
2. Expand into Adjacent Disciplines
Strategically pivot into related, regulated fields to create a unique and valuable skill combination.
3. Fuel with Continuous Digital Learning
Over 140 Courses
Commit to relentless learning through digital micro-credentials, focusing on cutting-edge skills like AI and robotics.
4. Synthesize into an Auditable System
Use technology (like VBA automation) to create a self-validating digital portfolio that manages and proves your complex credentials.
NotebookLM

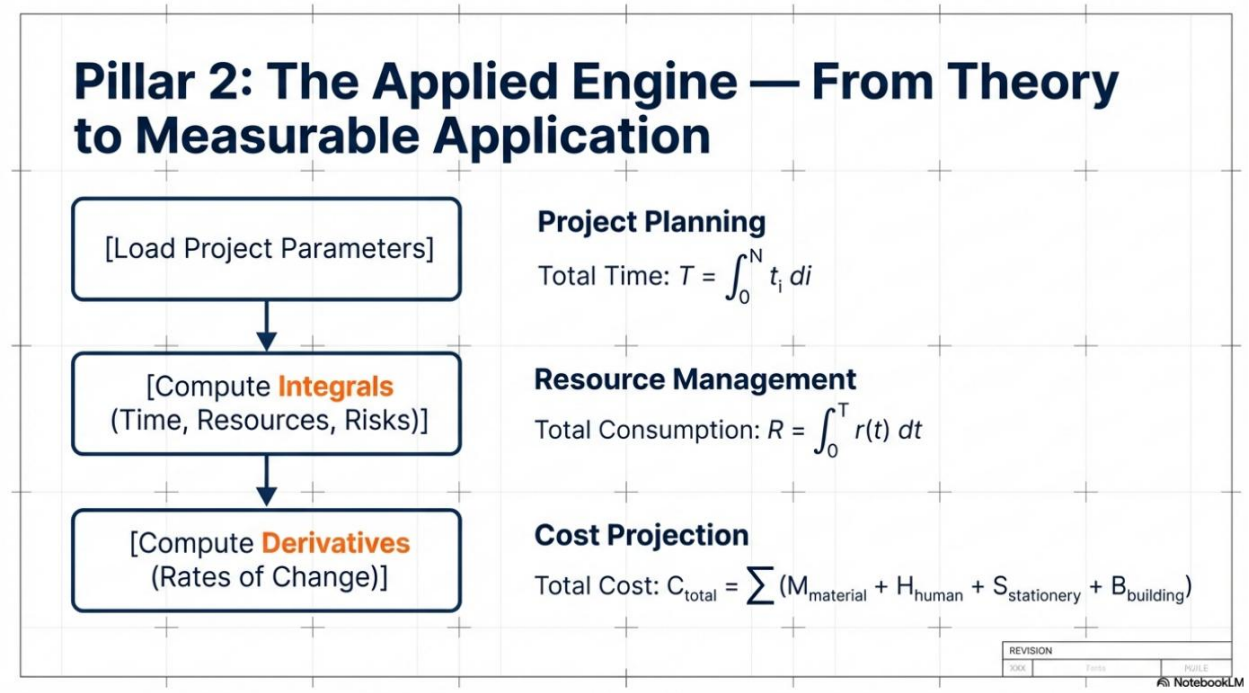

The Unified Mastery Engine:
An Architecture for Verifiable Human Potential
A blueprint for structuring knowledge, validating application, and securing lifelong professional assets.
The Credentialing & IP Hub
Verifying Achievement
Core Logic & Data Model
The Didactic Core
Structuring Knowledge
The Applied Engine
Measuring Application
SYSTEM SPECIFICATION: INTEGRATED CAREER TRACKING // AUDIT-GRADE
NotebookLM


The Fragmentation of Modern Professional Identity
Raw Data Chaos
St peace College | dhet - Assessment career job: career application name: tshingombe tshitadi
NIMI Textbooks: Electrician Sector, Trade Practical NSQF (LEVEL - 5).
Detective Inspector - Employee number: 23456788.
Construction e... electric association, information rules.
DATA_POINT_01
DATA_POINT_02
DATA_POINT_03
CONNECTION_LOST
DATA_SILO
FRAGMENTATION_DETECTED
A professional profile is often a scattered collection of disparate data points—from vocational trade theory to high-ranking civil service roles—without a single source of truth to connect them.
Result: Specific trade skills (NQF Level 3) and leadership roles (Detective Inspector) live in isolated silos.
PROJECT: PROFESSIONAL IDENTITY SCHEMATIC
DRAWING NO: ID-001-REV A
NotebookLM


A Closed-Loop System for Professional Development
Pillar 1: The Didactic Core (Input)
Ingests raw curriculum (NIMI textbooks) and structures it into modular formats.
Pillar 2: The Applied Engine (Process)
Translates theory into measurable projects using simulation and code.
Pillar 3: The Credentialing & IP Hub (Output)
Converts work into blockchain-verified certificates and patentable assets.
Continuous Data Loop
NotebookLM


Pillar 1: The Didactic Core — Structuring Raw Knowledge
Raw Input
INPUT: NIMI Electrician Trade Practical / Module 3: AC/DC Motor Drives
Standardization Process
Library of Structured Knowledge
MASTERS-LEVEL CURRICULUM: Renewable Energy
Wind Energy: Understanding the Technology and Integration
Solar Energy: Exploring Photovoltaic Systems
MASTERS-LEVEL CURRICULUM: Supply Chain Management
Masters in Supply Chain Management and Traceability. Focus on flow of goods, information, and finances.
MASTERS-LEVEL CURRICULUM: Spatial Computing
Spatial Computing in Telecommunications. Utilizing GIS, LBS, and remote sensing.
MASTERS-LEVEL CURRICULUM: Genetic Engineering
Biopharmaceutical Manufacturing. Focus on fermentation technology, scale-up, and quality control.
NotebookLM


Competence is Quantifiable: The Mathematics of Mastery
Wind Energy - Integral Calculations
Total Power Output:
$P_{total} = \int_0^T P(t)\,dt$
Energy Harvested:
$E = \int_0^T \frac{1}{2}\rho A v^3 \eta\,dt$
ρ = Air Density
η = Efficiency
Solar Energy - Integral Calculations
Total Energy Generated:
$E_{total} = \int_0^T P(t)\,dt$
Social Media Marketing (Cross-disciplinary)
Total Engagement:
$E_{total} = \int_0^T E(t)\,dt$
Demonstrates the extensibility of the mathematical model to non-engineering domains.
NotebookLM
NotebookLM


Pillar 2: The Applied Engine — From Theory to Measurable Application
[Load Project Parameters]
[Compute Integrals (Time, Resources, Risks)]
[Compute Derivatives (Rates of Change)]
Project Planning
Total Time: $T = \int_0^N t_i\,di$
Resource Management
Total Consumption: $R = \int_0^T r(t)\,dt$
Cost Projection
Total Cost: $C_{total} = \sum (M_{material} + H_{human} + S_{stationery} + B_{building})$
REVISION
NotebookLM

The Engine's Source Code: Verifiable Logic

Renewable Energy & Smart Grid Functions

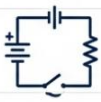
```
' Renewable Energy: Wind Harvest
Function WindEnergyHarvest(rho, A, v, eta,
duration) As Double
    WindEnergyHarvest = 0.5 * rho * A * (v ^ 3)
* eta * duration
End Function

' Solar Efficiency
Function SolarEfficiency(Egenerated, Eincident)
As Double
    ...
End Function
```

Project Cost Estimation Logic

```
' Estimate Total Project Cost
...
"Human Resource: " &
FormatCurrency(entry.HumanResourceCost)
"Material: " &
FormatCurrency(entry.MaterialCost)
"Building / Infrastructure:" &
FormatCurrency(entry.BuildingCost)
"Total Cost: " &
FormatCurrency(EstimateTotalProjectCost(...))
```

NotebookLM
Revision b NotebookLM

Bridging Didactics and Practice: Simulation Environments



DC Technology

AC Technology

Three-Phase Technology

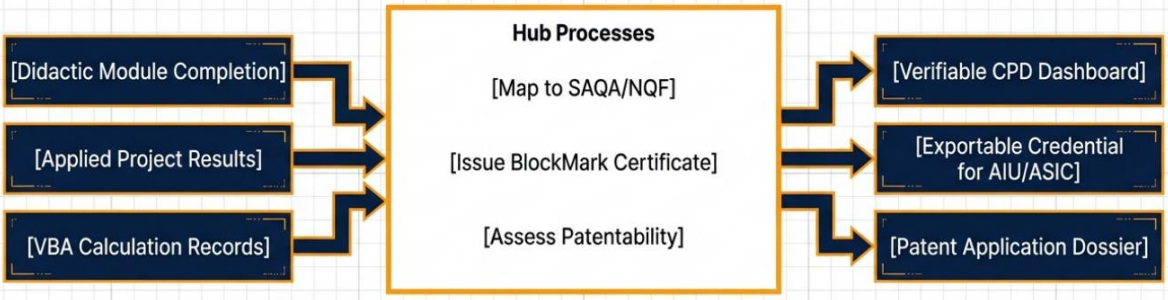
KNX® Building Automation

UniTrain Credential Tracker Logic

```
' Module: UniTrainICredentialTracker
' Purpose: Automate training progress, fault simulation, and credentialing

Type UniTrainTrainee
    Name As String
    CourseCode As String
    DC_Module As Boolean
    AC_Module As Boolean
    ThreePhase_Module As Boolean
    FaultsResolved As Integer
    TotalFaults As Integer
    CertificationStatus As String
End Type
```

NotebookLM

Pillar 3: The Credentialing Hub — Verifying Mastery



NQF Level 3 Mapping

Component	Unit Standard ID	Title
Core	ID 258963	Install, test and maintain electrical equipment
Core	ID 113924	Install and commission DC and AC machines

NotebookLM

Revision block footer

NotebookLM

From Research to Asset: A Structured Path to Patentability

Beyond credentials, the hub manages the lifecycle of intellectual property. It aligns with international patent standards, tracking research methodology and assessing inventions against key criteria to create an audit-ready trail for patent applications.

Patentability Criteria

1. **Novelty**: Not publicly disclosed before filing.
2. **Utility**: Must function and serve a useful purpose.
3. **Inventive Step**: Not obvious to a skilled professional in the field.

VBA Logic for Patent Tracking

```
' Module: Research and Patent Lifecycle Tracker
Type ResearchPatentProject
  ProjectID As String
  ScopeDefined As Boolean
  MethodologySet As Boolean
  PatentNovelty As Boolean
  PatentUtility As Boolean
  PatentInventiveStep As Boolean
  PatentFiled As Boolean
  CertificationStatus As String
End Type
```

Reference: `URFIST Paris` patent tutorials and `Espacenet` database for prior art searches.

NotebookLM

NotebookLM

International Application: Aligning with Global Standards

The French Brevet de Technicien Supérieur (BTS) in Electrotechnics

Professional Activities

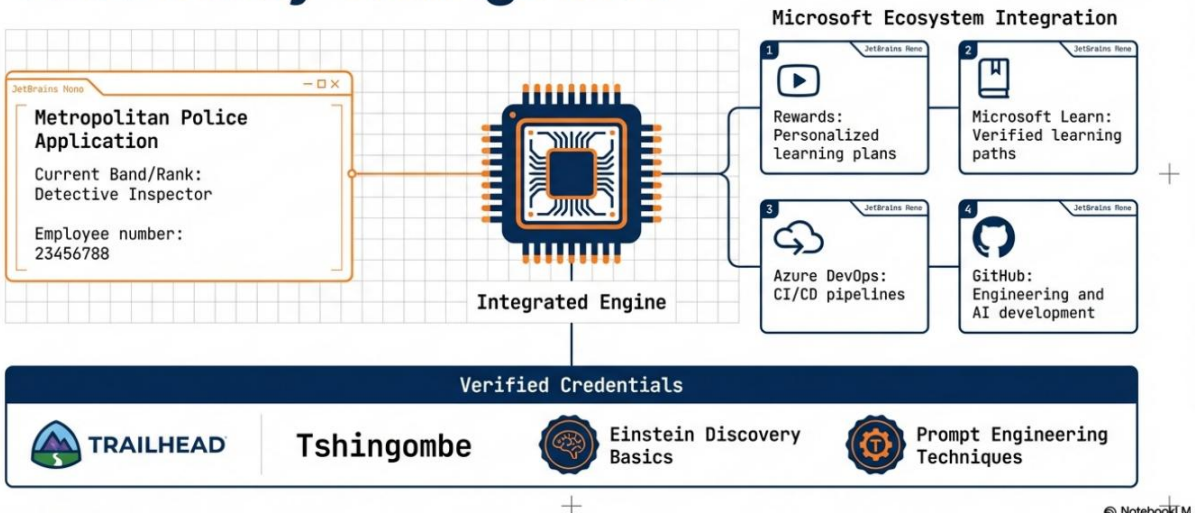
- Étude - Conception préliminaire (Preliminary study & design)
- Conception – étude détaillée du projet (Detailed project design)
- Analyse – diagnostic (Analysis – diagnostic)
- Maintenance d'une installation électrique
- Conduite de projet/chantier (Project management)

Certified Competencies

- Modéliser le comportement de tout ou partie d'un ouvrage (Model system behavior)
- Dimensionner les constituants (Dimension components)
- Proposer l'architecture d'un ouvrage (Propose system architecture)
- Gérer et conduire le projet/chantier (Manage the project)

NotebookLM

The Integrated Professional Profile: Case Study Tshingombe



A Complete System of Systems for Professional Mastery

By integrating the Didactic Core, Applied Engine, and Credentialing Hub, the platform creates a closed-loop system for continuous development. Every skill learned is applied, every application is measured, and every achievement is verifiably certified.

Key Value Propositions

- **Audit-Grade Traceability**: From lesson plan to final credential.
- **Integrated Learning**: Seamlessly connecting theory, simulation, and practice.
- **Verifiable Credentials**: Portable, secure, and mapped to global standards.
- **Lifelong Portfolio Management**: A dynamic record of career achievement and innovation.

NotebookLM
NotebookLM

The Professional's Lifelong Ledger
NQF Level 3
Project: UniTrain
Credential: BlockMark Certified
Patent: Filed
Role: Detective Inspector
Building the architecture for proven expertise.
NotebookLM

The Architecture of Mastery: A Unified Engine for Electrical Engineering Careers

An audit-grade system tracking professional mastery from technical rigor to verifiable, lifelong career portfolios.

Pillar 1: The Didactic Core

A comprehensive library of structured technical knowledge covering electronics, power generation, and management fields.

Pillar 2: The Applied Engine

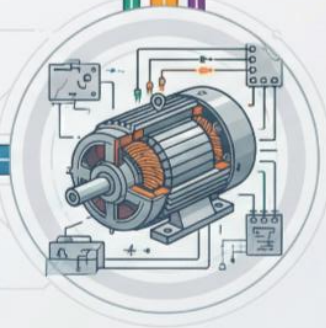
Translates theory into measurable outcomes through 48 practical exercises and 525 hours of workshop training.

Pillar 3: The Credentialing Hub

Verifies achievement through national frameworks (NQF), blockchain certificates, and structured patent lifecycles.

Technical Mastery (Electrician 4th Semester)

Intensive training across seven modules, including 175 hours dedicated to Electronic Practice.



4th Semester Technical Curriculum Breakdown

Electronic Practice: 175 Hours	Control Panel Wiring: 100 Hours	Inverter and UPS: 75 Hours

Featured Module Breakdown

Advanced System Competencies

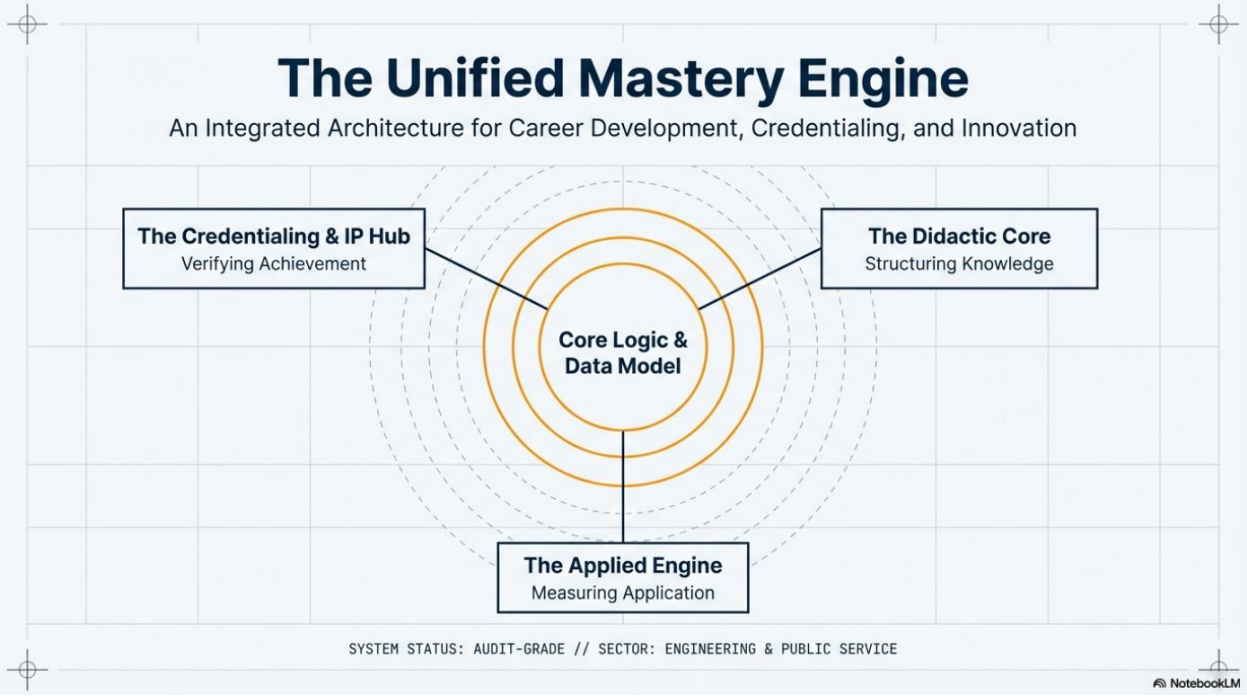
Mastery in AC/DC motor drives, control panel wiring, and solar power system installation.

Verifiable Career Ledger

Maps unit standards (like SAQA ID 63790) directly to professional roles and inspector-level ranks.

NotebookLM

The Lifelong Ledger: Building the Architecture for Proven Expertise
NQF Level 3
Project: UniTrain
Credential: BlockMark Certified
Patent: Filed
Role: Detective Inspector
A definitive, verifiable ledger of human potential, realized and proven.
NotebookLM


The Unified Mastery Engine
An Integrated Architecture for Career Development, Credentialing, and Innovation
The Credentialing & IP Hub
Verifying Achievement
The Didactic Core
Structuring Knowledge
Core Logic & Data Model
The Applied Engine
Measuring Application
SYSTEM STATUS: AUDIT-GRADE // SECTOR: ENGINEERING & PUBLIC SERVICE
NotebookLM

An Architecture for Verifiable Human Potential

Pillar 1: The Didactic Core

A library of modular, cross-disciplinary curricula structuring knowledge acquisition.

Pillar 2: The Applied Engine

Knowledge applied through simulation, quantitative analysis, and project-based work.

Pillar 3: The Credentialing & IP Hub

Achievement verified through blockchain certificates, national standards, and patent lifecycles.

OBJECTIVE: TRANSITION FROM STATIC RESUMES TO DYNAMIC, AUDIT-GRADE LIFELONG LEDGERS.

NotebookLM

The Didactic Core: A Library of Structured Knowledge

Mapping Masters-level curriculum directly to professional competencies.

Renewable Energy

Wind Energy: Understanding Technology and Integration.
Solar Energy: Exploring Photovoltaic Systems.

Supply Chain Management

Masters in Supply Chain Management and Traceability. Focus on flow of goods, information, and finances from origin to consumer.

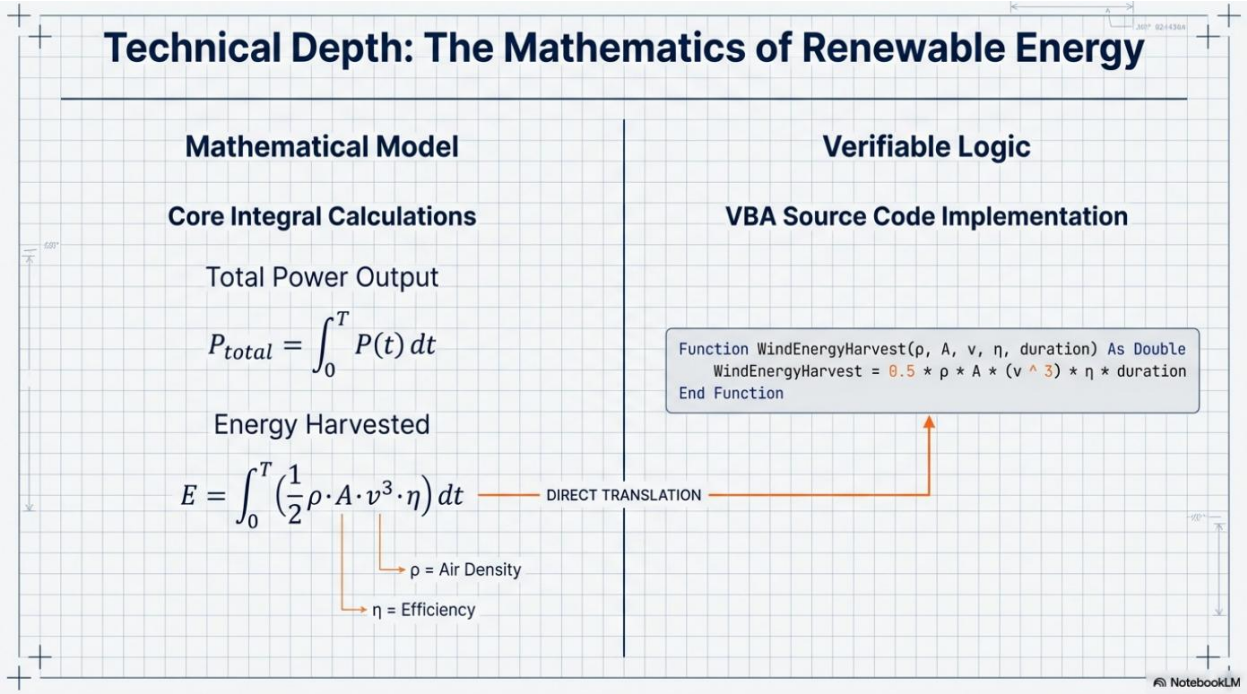
Spatial Computing

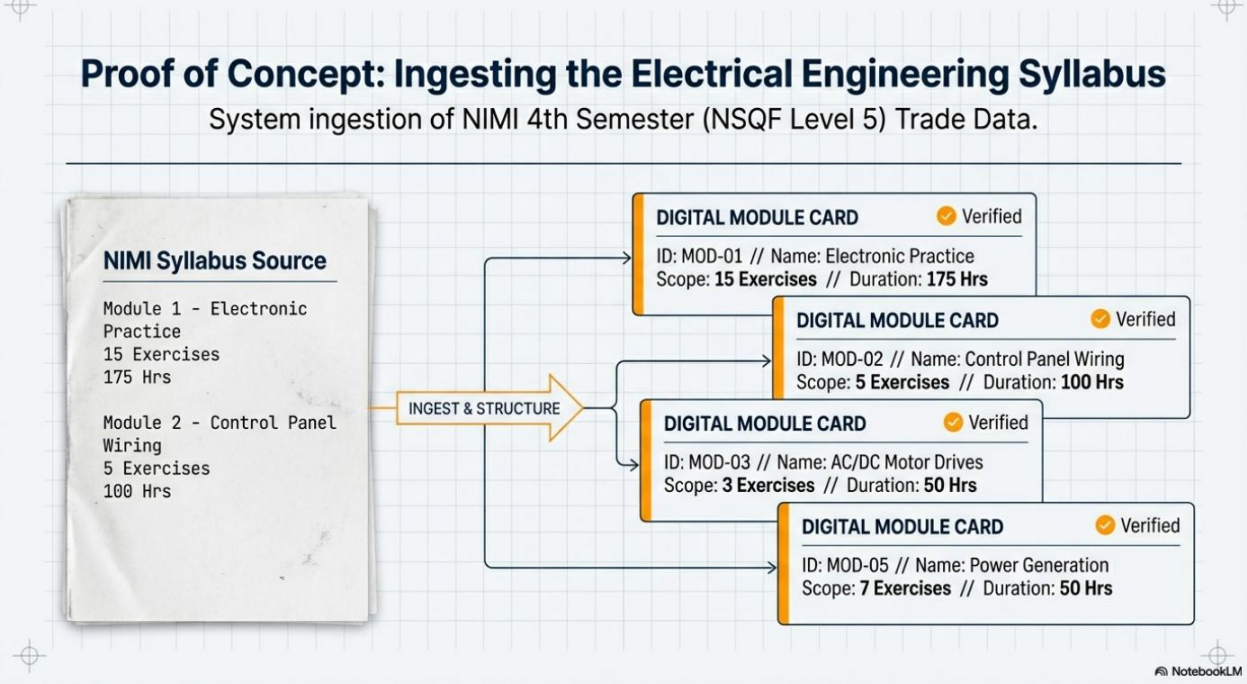
Spatial Computing in Telecommunications. Utilizing GIS, LBS, and remote sensing for network optimization.

Genetic Engineering

Biopharmaceutical Manufacturing
Focus on fermentation technology, scale-up, and quality control.

NotebookLM


Technical Depth: The Mathematics of Renewable Energy
Mathematical Model
Core Integral Calculations
Total Power Output
$P_{total} = \int_0^T P(t)\,dt$
Energy Harvested
$E = \int_0^T \left(\frac{1}{2}\rho \cdot A \cdot v^3 \cdot \eta\right) dt$
DIRECT TRANSLATION
ρ = Air Density
η = Efficiency
Verifiable Logic
VBA Source Code Implementation
Function WindEnergyHarvest(ρ, A, v, η, duration) As Double
WindEnergyHarvest = 0.5 * ρ * A * (v ^ 3) * η * duration
End Function
NotebookLM


Proof of Concept: Ingesting the Electrical Engineering Syllabus
System ingestion of NIMI 4th Semester (NSQF Level 5) Trade Data.
NIMI Syllabus Source
Module 1 - Electronic Practice
15 Exercises
175 Hrs
Module 2 - Control Panel Wiring
5 Exercises
100 Hrs
INGEST & STRUCTURE
DIGITAL MODULE CARD
Verified
ID: MOD-01 // Name: Electronic Practice
Scope: 15 Exercises // Duration: 175 Hrs
DIGITAL MODULE CARD
Verified
ID: MOD-02 // Name: Control Panel Wiring
Scope: 5 Exercises // Duration: 100 Hrs
DIGITAL MODULE CARD
Verified
ID: MOD-03 // Name: AC/DC Motor Drives
Scope: 3 Exercises // Duration: 50 Hrs
DIGITAL MODULE CARD
Verified
ID: MOD-05 // Name: Power Generation
Scope: 7 Exercises // Duration: 50 Hrs
NotebookLM

The Applied Engine: From Theory to Measurable Application

The Applied Engine translates didactic learning into practical, measurable outcomes. It provides tools for project planning, resource management, and cost projection, ensuring every application of knowledge is tracked and quantified.

```
[Load Project Parameters]
        ↓
[Compute Integrals (Time, Resources, Risks)]
        ↓
[Compute Derivatives (Rates of Change)]
```

Project Planning

Total Time: $T = \int_0^N t_i \, di$

Resource Management

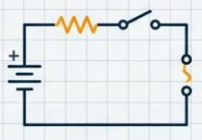
Total Consumption: $R = \int_0^T r(t) \, dt$

Cost Projection

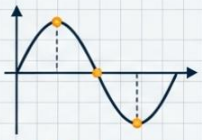
Total Cost: C_total = Sum (M_material + H_human + S_stationery + B_building)

NotebookLM

Bridging Didactics and Practice: The Simulation Environment



DC Technology



AC Technology

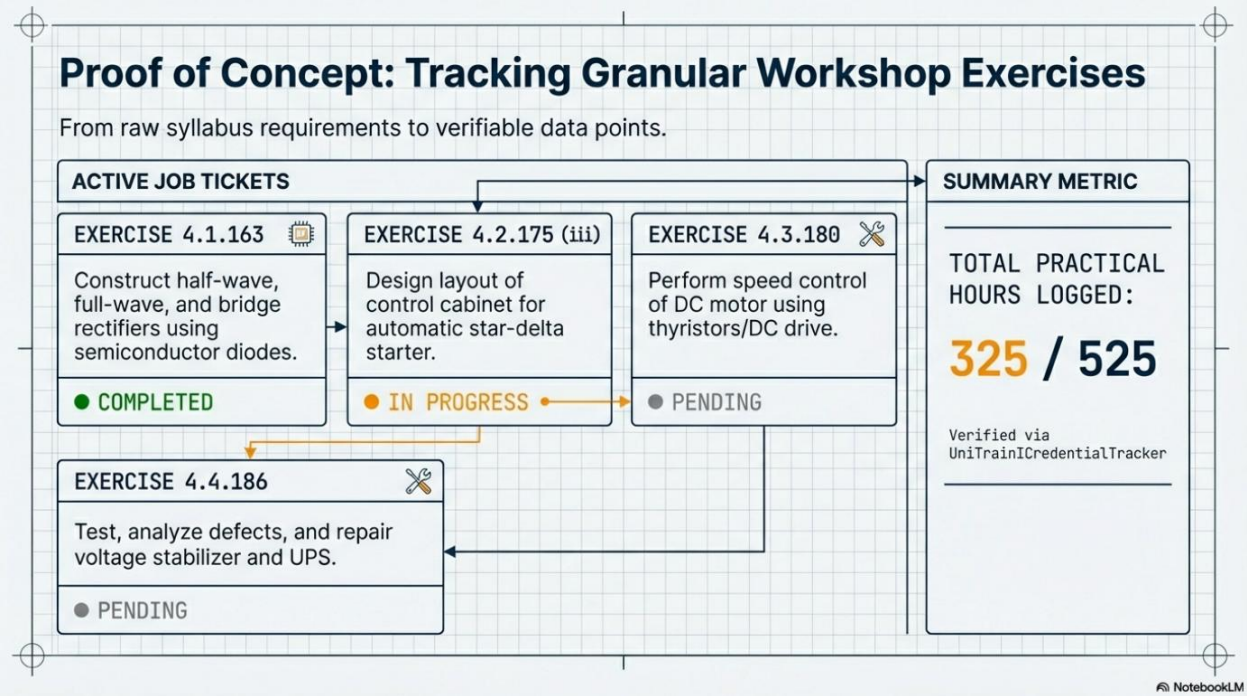
Three-Phase Technology

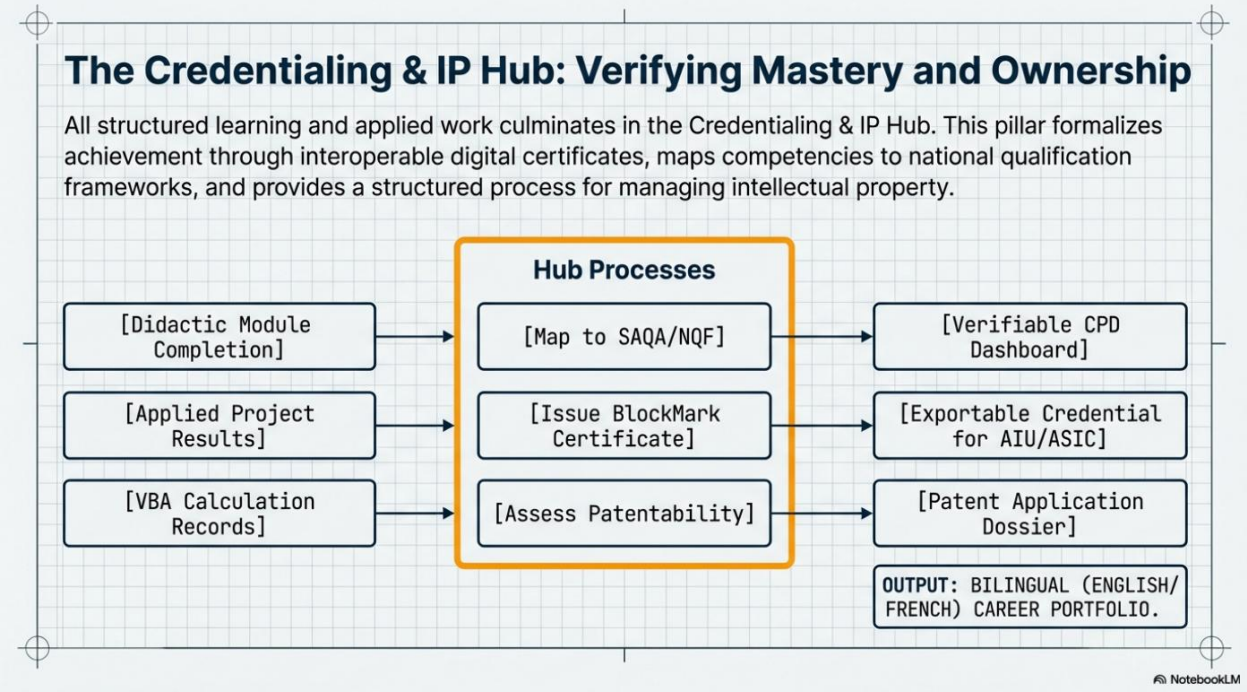
KNX Building Automation

```
Module: UniTrainICredentialTracker

  Type UniTrainTrainee
      Name As String
      CourseCode As String
      DC_Module As Boolean
      AC_Module As Boolean
      ThreePhase_Module As Boolean
      FaultsResolved As Integer
      TotalFaults As Integer
      CertificationStatus As String
  End Type
```

Automated Competency Tracking

NotebookLM


Proof of Concept: Tracking Granular Workshop Exercises
From raw syllabus requirements to verifiable data points.
ACTIVE JOB TICKETS
EXERCISE 4.1.163
Construct half-wave, full-wave, and bridge rectifiers using semiconductor diodes.
COMPLETED
EXERCISE 4.2.175 (iii)
Design layout of control cabinet for automatic star-delta starter.
IN PROGRESS
EXERCISE 4.3.180
Perform speed control of DC motor using thyristors/DC drive.
PENDING
EXERCISE 4.4.186
Test, analyze defects, and repair voltage stabilizer and UPS.
PENDING
SUMMARY METRIC
TOTAL PRACTICAL HOURS LOGGED:
325 / 525
Verified via UniTrainICredentialTracker
NotebookLM


The Credentialing & IP Hub: Verifying Mastery and Ownership
All structured learning and applied work culminates in the Credentialing & IP Hub. This pillar formalizes achievement through interoperable digital certificates, maps competencies to national qualification frameworks, and provides a structured process for managing intellectual property.
[Didactic Module Completion]
[Applied Project Results]
[VBA Calculation Records]
Hub Processes
[Map to SAQA/NQF]
[Issue BlockMark Certificate]
[Assess Patentability]
[Verifiable CPD Dashboard]
[Exportable Credential for AIU/ASIC]
[Patent Application Dossier]
OUTPUT: BILINGUAL (ENGLISH/ FRENCH) CAREER PORTFOLIO.
NotebookLM

Mapping to National Standards: SAQA NQF Level 3 Compliance

The platform's data model is designed to align with rigorous national qualification frameworks, such as the South African Qualifications Authority (SAQA). It maps every learning activity and competency to specific unit standards, ensuring full compliance and auditability.

SAQA ID 63790: National Certificate: Electrical Engineering (NQF Level 3, 133 Credits)			
Component	**Unit Standard ID**	**Title**	**Credits**
Core	258963	Install, test and maintain electrical equipment in a hazardous location	10
Core	113924	Install and commission DC and AC machines and control gear	10
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	5
Elective	259097	Carry out a detailed inspection and repair defects on explosion prevention apparatus	6

NotebookLM

From Research to Asset: A Structured Path to Patentability.

Beyond credentials, the hub manages the lifecycle of intellectual property. It aligns with international patent standards, tracking research methodology and assessing inventions against key criteria to create an audit-ready trail for patent applications.

Patentability Criteria

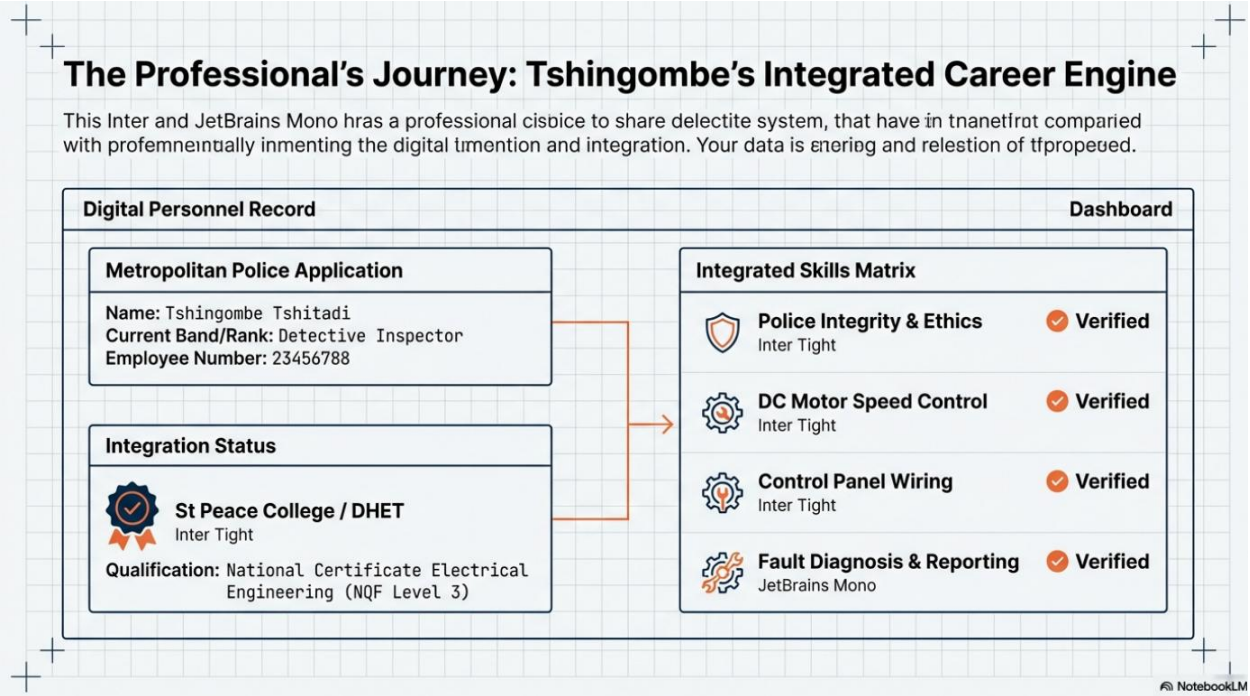
1. **Novelty:** Not publicly disclosed before filing.
2. **Utility:** Must function and serve a useful purpose.
3. **Inventive Step:** Not obvious to a skilled professional in the field.

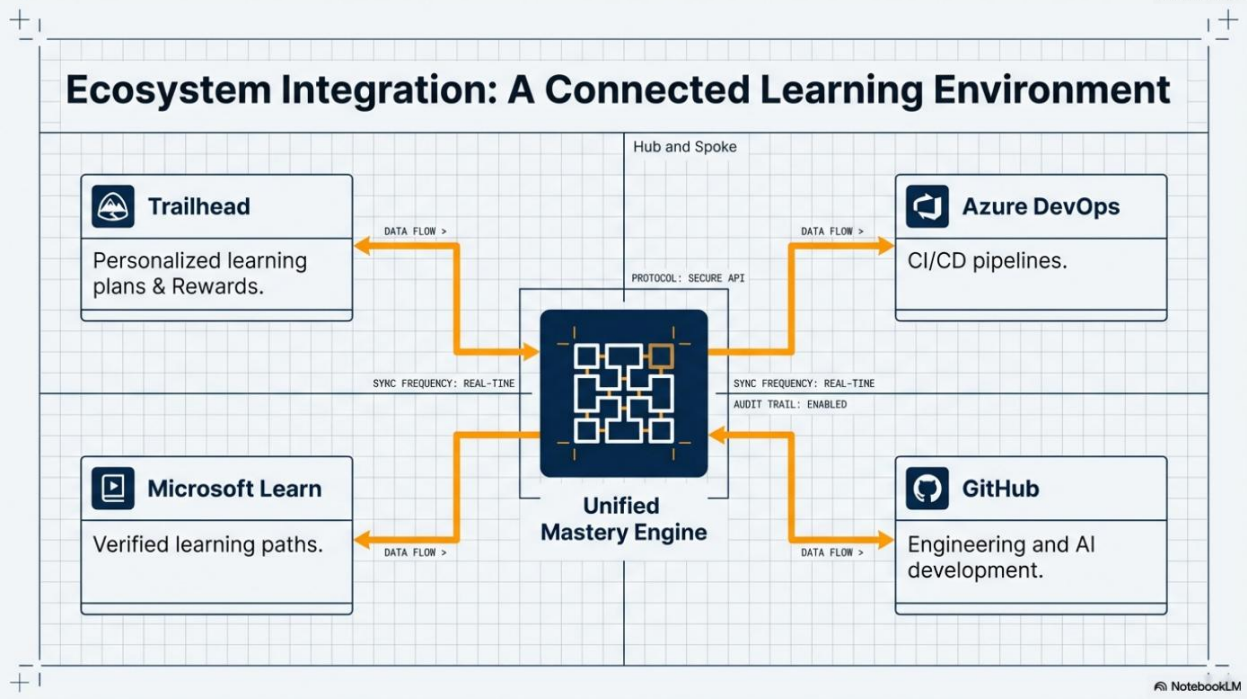
Reference: `URFIST Paris` patent tutorials and `Espacenet` database for prior art searches.

VBA Logic for Patent Tracking

```
' Module: Research and Patent Lifecycle Tracker
Type ResearchPatentProject
    ProjectID As String
    ScopeDefined As Boolean
    MethodologySet As Boolean
    PatentNovelty As Boolean
    PatentUtility As Boolean
    PatentInventiveStep As Boolean
    PatentFiled As Boolean
    CertificationStatus As String
End Type
```

NotebookLM


The Professional's Journey: Tshingombe's Integrated Career Engine
This Inter and JetBrains Mono hras a professional cisoice to share delectite system, that have in tnanetfrot compared with profemneintually inmenting the digital tmention and integration. Your data is enering and relestion of tfropeued.
Digital Personnel Record
Dashboard
Metropolitan Police Application
Name: Tshingombe Tshitadi
Current Band/Rank: Detective Inspector
Employee Number: 23456788
Integration Status
St Peace College / DHET
Inter Tight
Qualification: National Certificate Electrical Engineering (NQF Level 3)
Integrated Skills Matrix
Police Integrity & Ethics
Inter Tight
Verified
DC Motor Speed Control
Inter Tight
Verified
Control Panel Wiring
Inter Tight
Verified
Fault Diagnosis & Reporting
JetBrains Mono
Verified
NotebookLM


Ecosystem Integration: A Connected Learning Environment
Hub and Spoke
Trailhead
Personalized learning plans & Rewards.
Azure DevOps
CI/CD pipelines.
Microsoft Learn
Verified learning paths.
GitHub
Engineering and AI development.
DATA FLOW >
PROTOCOL: SECURE API
SYNC FREQUENCY: REAL-TINE
AUDIT TRAIL: ENABLED
Unified Mastery Engine
NotebookLM

International Application: The French Brevet de Technicien Supérieur (BTS)

Adaptability to European vocational standards.

Professional Activities	Certified Competencies
- Étude - Conception préliminaire (Preliminary study & design) - Conception - étude détaillée du projet (Detailed project design) - Analyse – diagnostic (Analysis – diagnostic) - Maintenance d'une installation électrique - Conduite de projet/chantier (Project management)	- Modéliser le comportement de tout ou partie d'un ouvrage (Model system behavior) - Dimensionner les constituants (Dimension components) - Proposer l'architecture d'un ouvrage (Propose system architecture) - Gérer et conduire le projet/chantier (Manage the project)

NotebookLM

The Lifelong Ledger: Building the Architecture for Proven Expertise
NQF Level 3
Project: UniTrain
Credential: BlockMark Certified
Patent: Filed
Role: Detective Inspector
A definitive, verifiable ledger of human potential, realized and proven.
NotebookLM

Architecture for Verifiable Human Potential: The Unified Mastery Engine

The Didactic Core: Structuring Knowledge

A comprehensive library of modular curricula covering technical fields.

The Applied Engine: Measuring Application

Translates didactic learning into measurable outcomes through project-based work, simulations, and quantitative analysis.

The Credentialing & IP Hub: Verifying Achievement

Issues blockchain-ready certificates and manages intellectual property lifecycles mapped to national qualification frameworks.

Global Standards and Traceability

National Standards Alignment

The system maps every activity to specific unit standards, such as SAQA/NQF Level 3.

SAQA ID	63790	Alignment
	Unit 258963: Install, test and maintain electrical equipment...	10
	Unit 113924: Install and commission DC and AC machines...	10
	Unit 119472: Accommodate audience and context...	5

Audit-Grade Traceability

Lifelong Ledger

Lesson Plan — **Innovative Contribution** — **Final Patent**

Provides a verifiable record of accumulated knowledge and innovative contributions from lesson plan to final patent

International Application

Architecture is adaptable to diverse standards, including the French BTS.

French Brevet de Technicien Supérieur (BTS) in Electrotechnics

NotebookLM

The Audit-Grade Career Engine

A Blueprint for Verifiable Competence

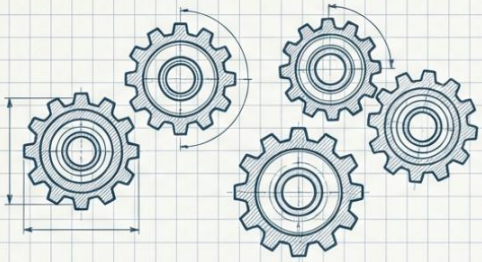
A modular framework synthesizing formal education, vocational training, and workplace experience into a single, auditable system.

SYSTEM DEFINITION: A Process & Validation Core that ingests disparate data (skills, time, energy outputs) and outputs audit-ready credentials.

NotebookLM

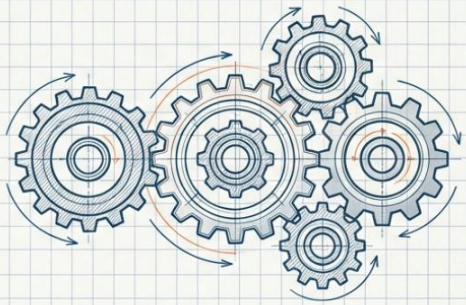
The Current Paradigm: Fragmented Competence in a Siloed World

CURRENT PARADIGM



1. **Static Resumes:** Self-reported, difficult to verify, and lack quantitative depth.
2. **Siloed Qualifications:** Formal diplomas sit in isolated databases, disconnected from practical application.
3. **Unquantified Experience:** Hands-on skills (fault simulation, wiring) are rarely linked to formal NQF credits.

SOLUTION

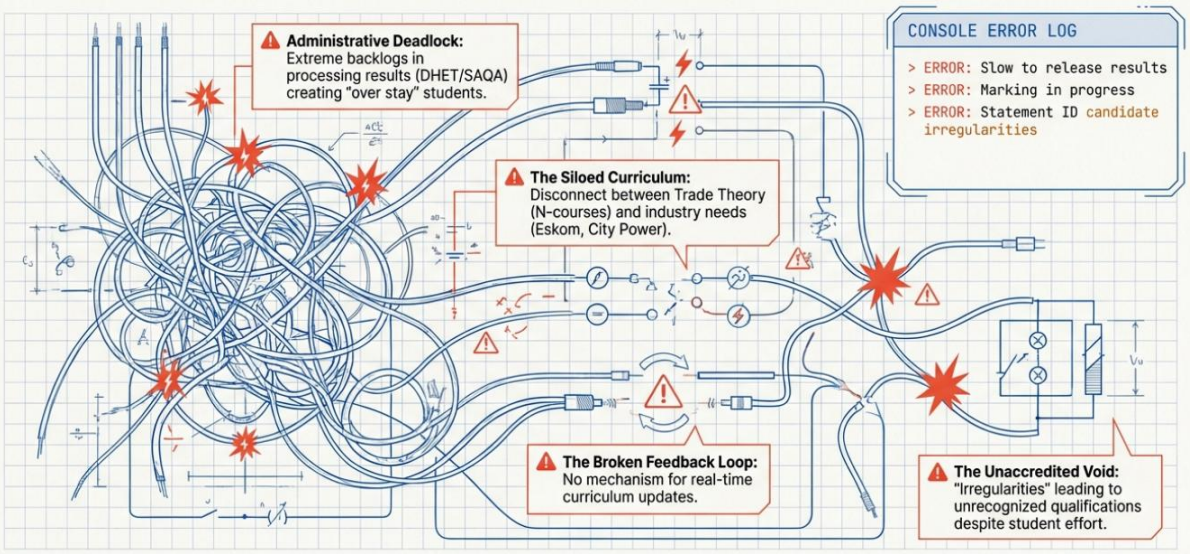


Key Insight

The Gap: The existing system fails to capture the "rate of change" in a professional's growth—it captures only static milestones, missing the actual work.

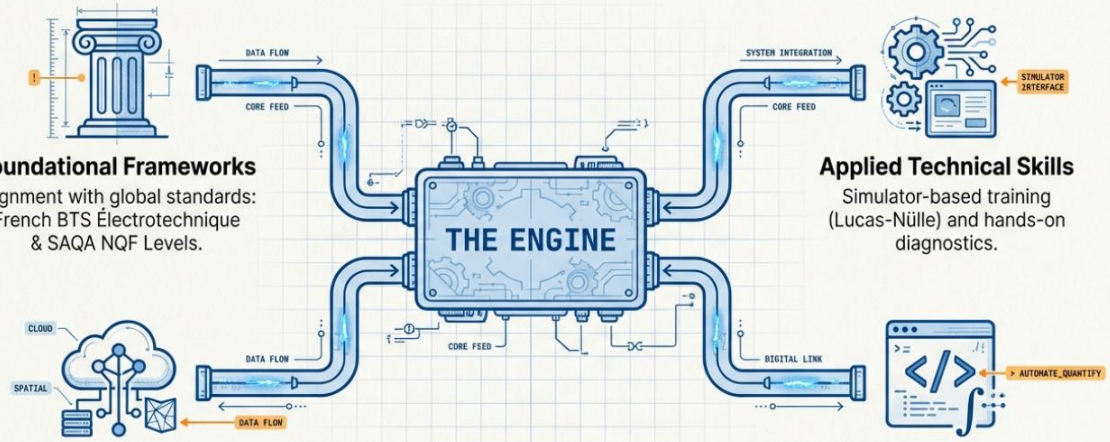
NotebookLM

Systemic Failures in the TVET Ecosystem


Administrative Deadlock:
Extreme backlogs in processing results (DHET/SAQA) creating "over stay" students.
CONSOLE ERROR LOG
> ERROR: Slow to release results
> ERROR: Marking in progress
> ERROR: Statement ID candidate irregularities
The Siloed Curriculum:
Disconnect between Trade Theory (N-courses) and industry needs (Eskom, City Power).
The Broken Feedback Loop:
No mechanism for real-time curriculum updates.
The Unaccredited Void:
"Irregularities" leading to unrecognized qualifications despite student effort.

NotebookLM

The Solution Architecture: Four Pillars of the Integrated Engine



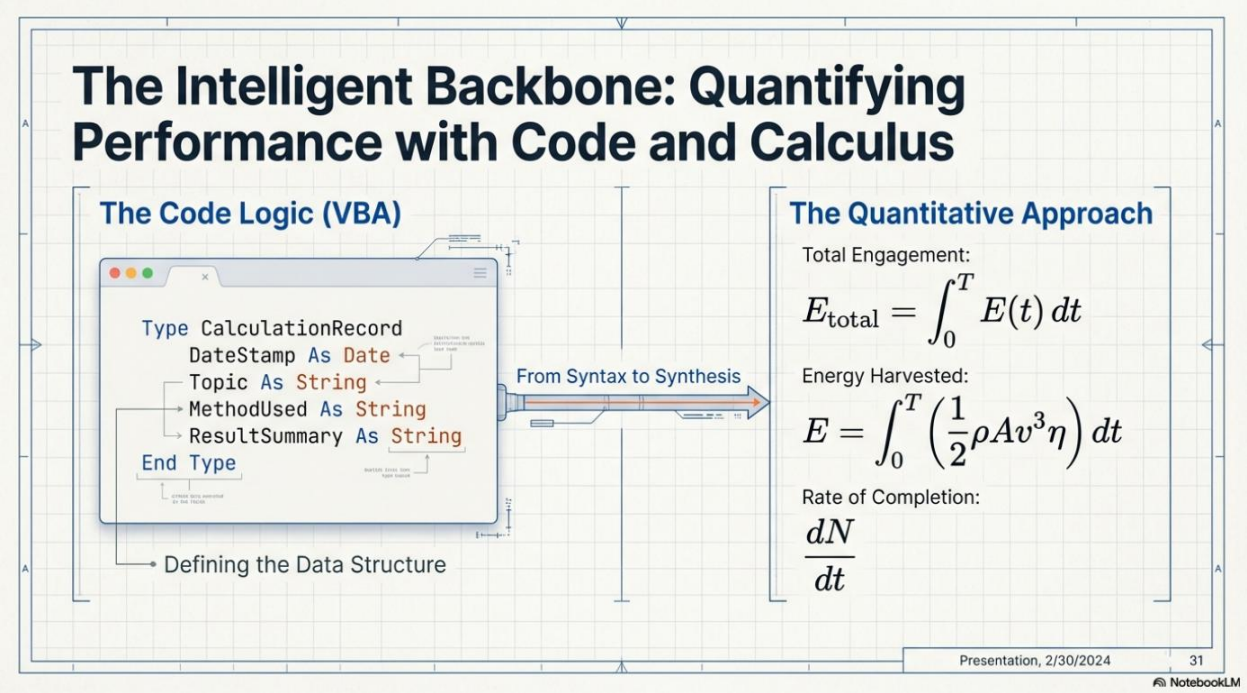
Foundational Frameworks
Alignment with global standards: French BTS Électrotechnique & SAQA NQF Levels.

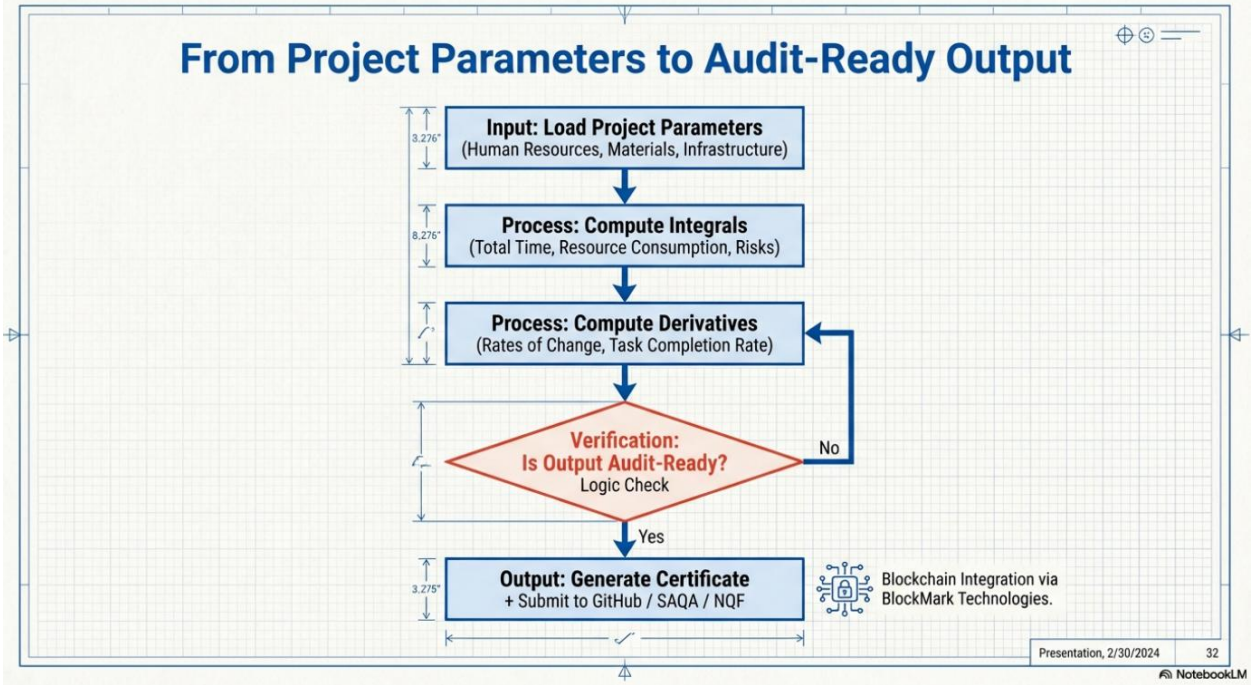
Applied Technical Skills
Simulator-based training (Lucas-Nülle) and hands-on diagnostics.

Digital & Professional Competencies
Mastery of modern tools: Salesforce, Cloud Computing, Spatial Data.

The Digital Backbone
The Intelligent Connective Tissue: Using Code and Calculus to automate and quantify.

NotebookLM

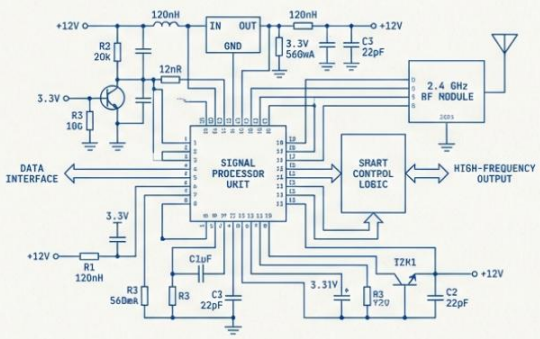

The Intelligent Backbone: Quantifying Performance with Code and Calculus
The Code Logic (VBA)
Type CalculationRecord
DateStamp As Date
Topic As String
MethodUsed As String
ResultSummary As String
End Type
Defining the Data Structure
From Syntax to Synthesis
The Quantitative Approach
Total Engagement:
$E_{\text{total}} = \int_0^T E(t)\,dt$
Energy Harvested:
$E = \int_0^T \left(\frac{1}{2}\rho A v^3 \eta\right) dt$
Rate of Completion:
$\frac{dN}{dt}$
Presentation, 2/30/2024
31
NotebookLM


From Project Parameters to Audit-Ready Output
Input: Load Project Parameters
(Human Resources, Materials, Infrastructure)
Process: Compute Integrals
(Total Time, Resource Consumption, Risks)
Process: Compute Derivatives
(Rates of Change, Task Completion Rate)
Verification:
Is Output Audit-Ready?
Logic Check
No
Yes
Output: Generate Certificate
+ Submit to GitHub / SAQA / NQF
Blockchain Integration via BlockMark Technologies.
Presentation, 2/30/2024
32
NotebookLM

Case Study: The Tshitadi Dossier – User Zero

A Paradox of Prolific Work and Systemic Hurdles

Systemic Rejection: Applications to NSF & NRF declined due to "eligibility requirements" (lack of accredited institution affiliation).

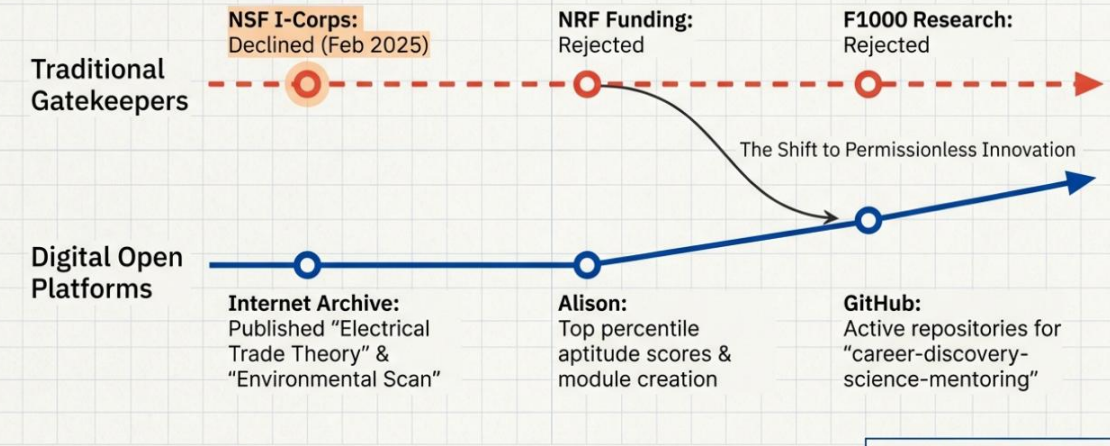


Verified Output: Production of military-grade engineering research, Smart Grids, and Control Systems.

CONFIDENTIAL - EVIDENCE FILE

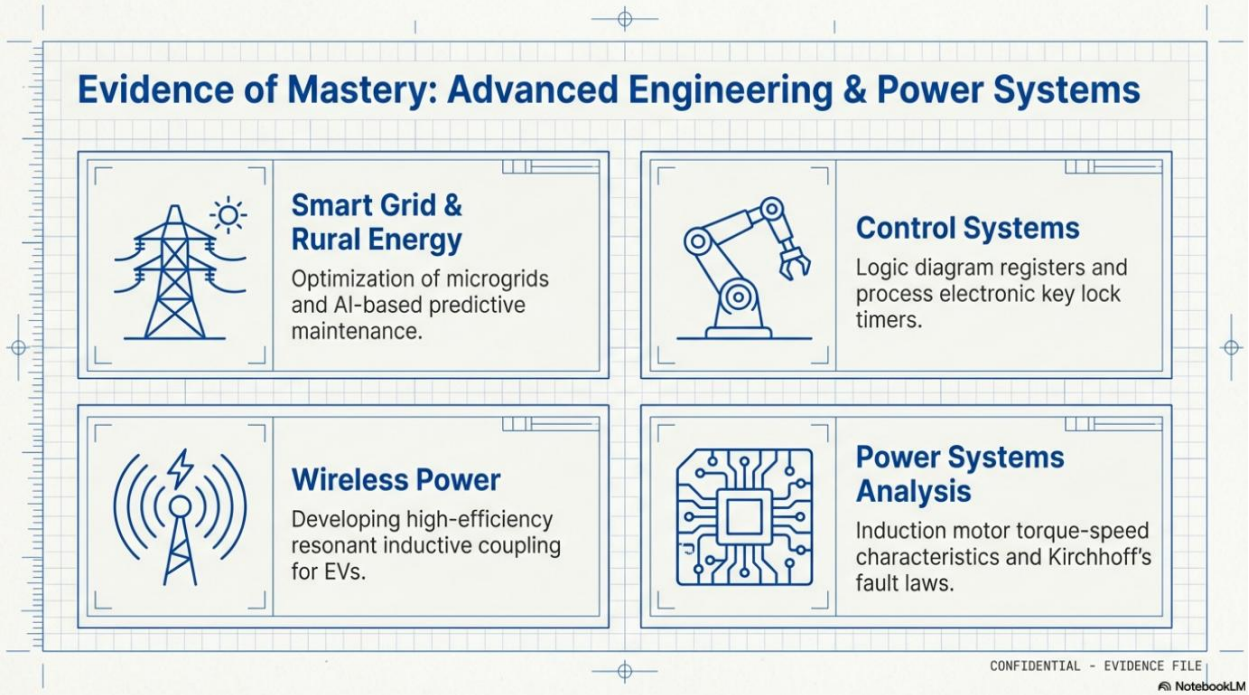
Presentation, 2/38, NotebookLM

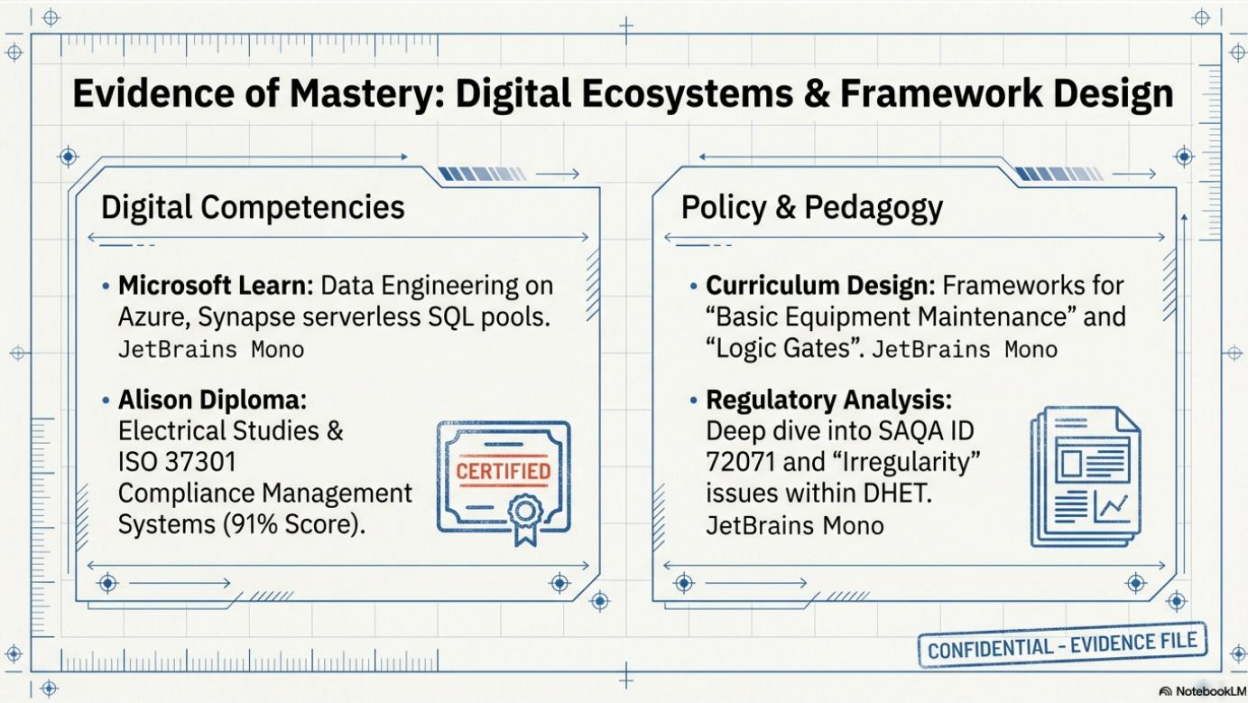
While Systems Declined, Innovation Accelerated

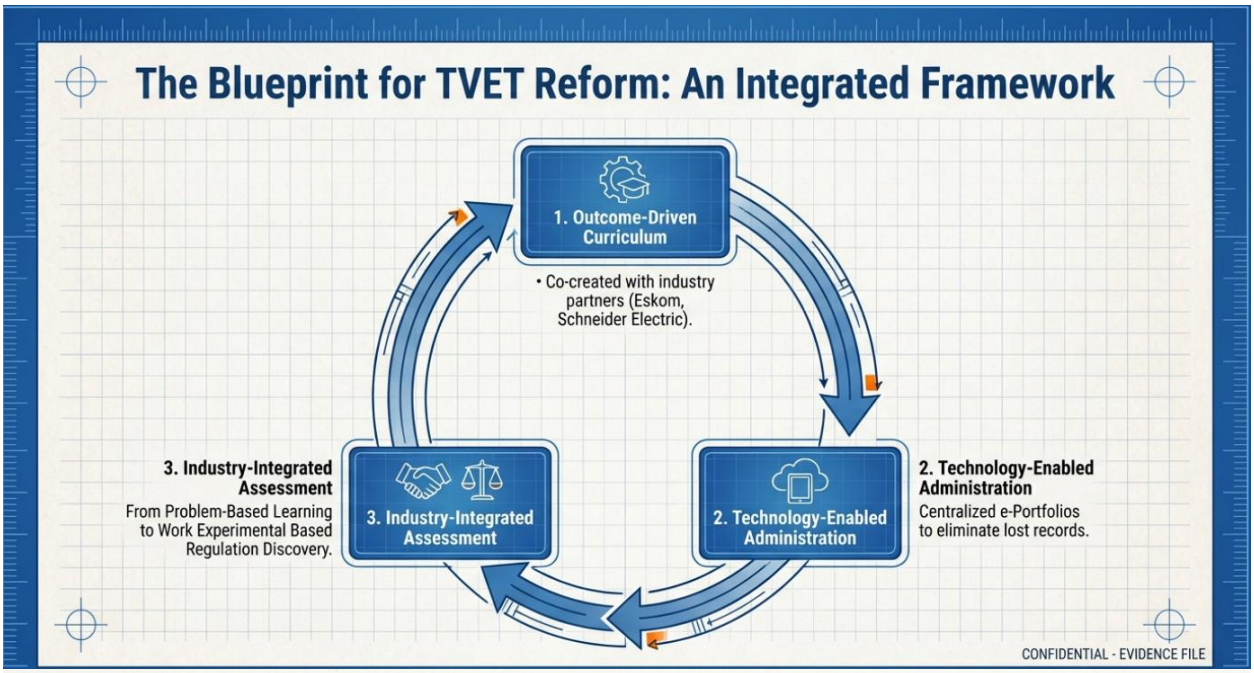

Traditional Gatekeepers
NSF I-Corps: Declined (Feb 2025)
NRF Funding: Rejected
F1000 Research: Rejected
The Shift to Permissionless Innovation
Digital Open Platforms
Internet Archive: Published "Electrical Trade Theory" & "Environmental Scan"
Alison: Top percentile aptitude scores & module creation
GitHub: Active repositories for "career-discovery-science-mentoring"

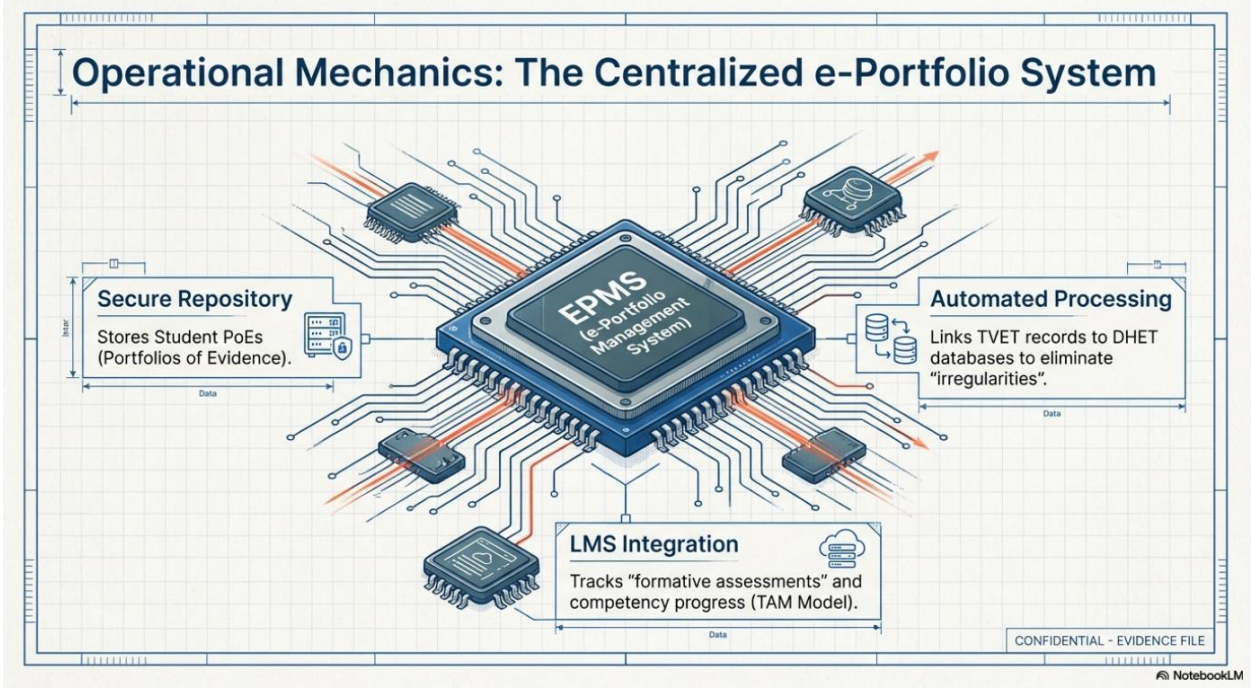
CONFIDENTIAL - EVIDENCE FILE

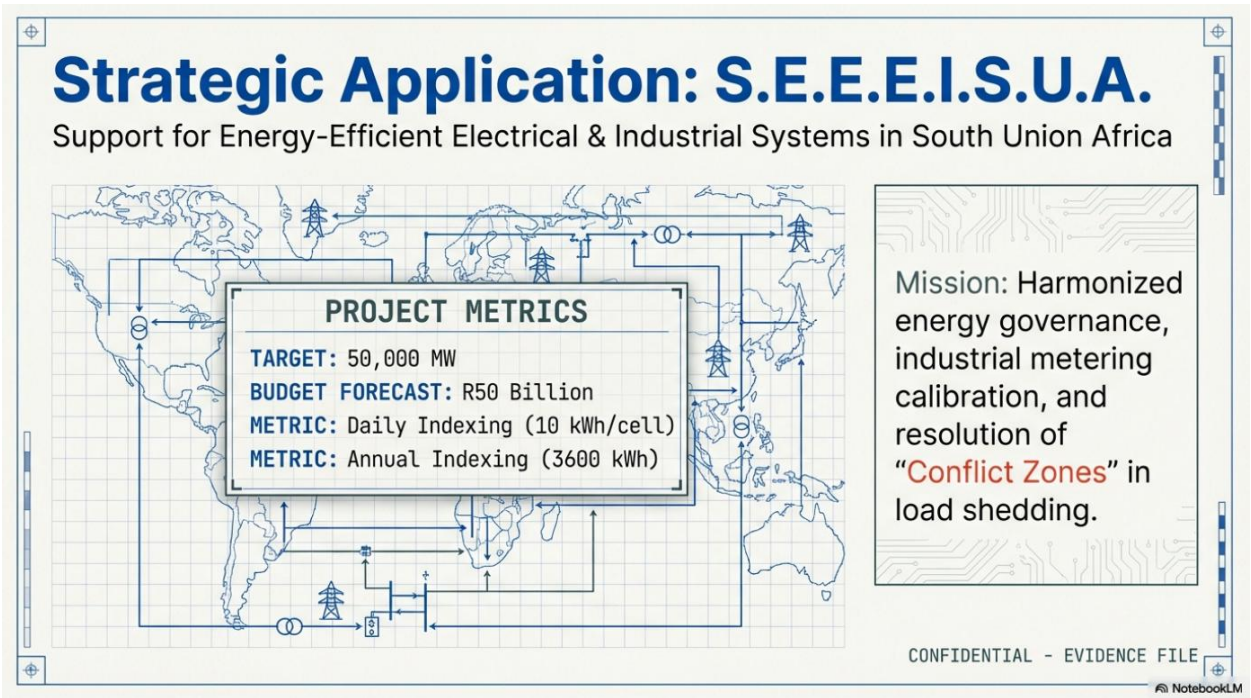
NotebookLM

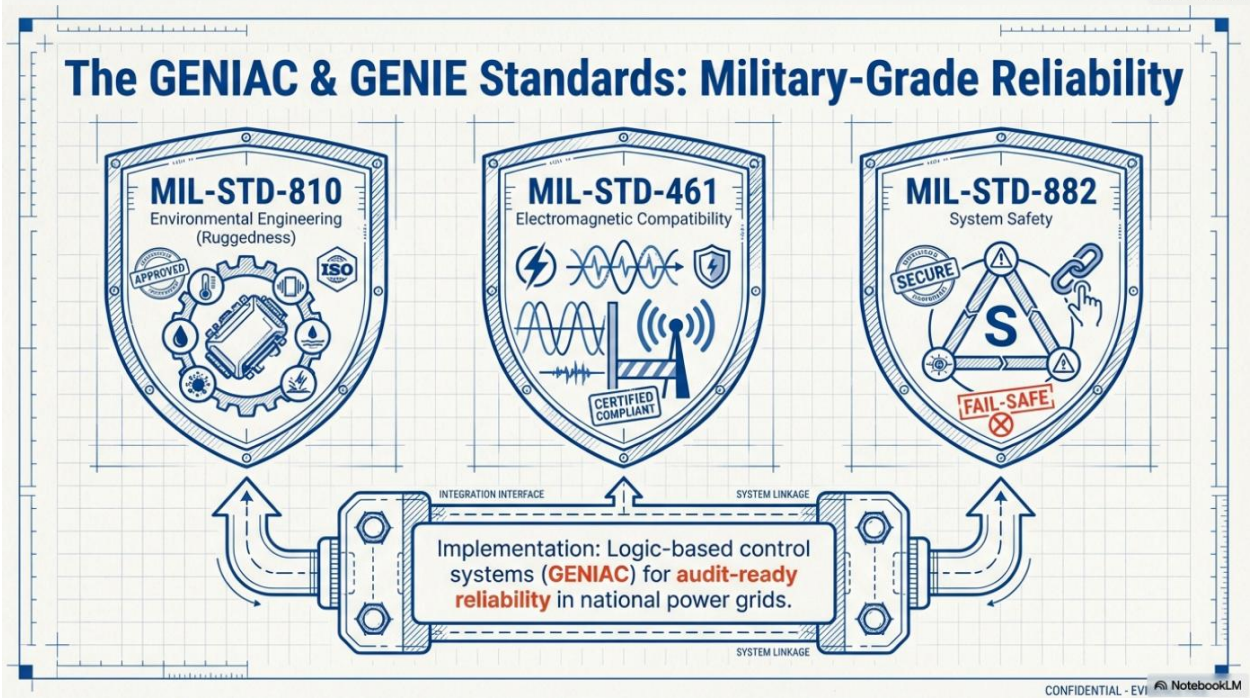

Evidence of Mastery: Advanced Engineering & Power Systems
Smart Grid & Rural Energy
Optimization of microgrids and AI-based predictive maintenance.
Control Systems
Logic diagram registers and process electronic key lock timers.
Wireless Power
Developing high-efficiency resonant inductive coupling for EVs.
Power Systems Analysis
Induction motor torque-speed characteristics and Kirchhoff's fault laws.
CONFIDENTIAL - EVIDENCE FILE
NotebookLM


Evidence of Mastery: Digital Ecosystems & Framework Design
Digital Competencies
• Microsoft Learn: Data Engineering on Azure, Synapse serverless SQL pools. JetBrains Mono
• Alison Diploma: Electrical Studies & ISO 37301 Compliance Management Systems (91% Score).
CERTIFIED
Policy & Pedagogy
• Curriculum Design: Frameworks for "Basic Equipment Maintenance" and "Logic Gates". JetBrains Mono
• Regulatory Analysis: Deep dive into SAQA ID 72071 and "Irregularity" issues within DHET. JetBrains Mono
CONFIDENTIAL - EVIDENCE FILE
NotebookLM


The Blueprint for TVET Reform: An Integrated Framework
1. Outcome-Driven Curriculum
• Co-created with industry partners (Eskom, Schneider Electric).
2. Technology-Enabled Administration
Centralized e-Portfolios to eliminate lost records.
3. Industry-Integrated Assessment
From Problem-Based Learning to Work Experimental Based Regulation Discovery.
CONFIDENTIAL - EVIDENCE FILE


Operational Mechanics: The Centralized e-Portfolio System
EPMS
(e-Portfolio Management System)
Secure Repository
Stores Student PoEs (Portfolios of Evidence).
Automated Processing
Links TVET records to DHET databases to eliminate "irregularities".
LMS Integration
Tracks "formative assessments" and competency progress (TAM Model).
CONFIDENTIAL - EVIDENCE FILE
NotebookLM


Strategic Application: S.E.E.E.I.S.U.A.
Support for Energy-Efficient Electrical & Industrial Systems in South Union Africa
PROJECT METRICS
TARGET: 50,000 MW
BUDGET FORECAST: R50 Billion
METRIC: Daily Indexing (10 kWh/cell)
METRIC: Annual Indexing (3600 kWh)
Mission: Harmonized energy governance, industrial metering calibration, and resolution of "Conflict Zones" in load shedding.
CONFIDENTIAL - EVIDENCE FILE
NotebookLM


The GENIAC & GENIE Standards: Military-Grade Reliability
MIL-STD-810
Environmental Engineering (Ruggedness)
APPROVED
ISO
MIL-STD-461
Electromagnetic Compatibility
CERTIFIED COMPLIANT
MIL-STD-882
System Safety
SECURE
S
FAIL-SAFE
INTEGRATION INTERFACE
SYSTEM LINKAGE
Implementation: Logic-based control systems (GENIAC) for audit-ready reliability in national power grids.
SYSTEM LINKAGE
NotebookLM

Engage the Expertise. Recognize the Innovation.

- The evidence demonstrates sustained, high-level technical output despite systemic friction.
- The “Career Engine” is a proven methodology for quantifying and validating expertise in engineering, law, and education.
- The challenge is no longer validation—the work stands on its own merit. The challenge is integration.

Contact Card

Author: Tshingombe Tshitadi Fiston
Roles: National-grade curriculum architect, technical educator, compliance strategist.
Call to Action: Adopt the Integrated Framework to turn "Fragmented Competence" into "Verified Mastery".

CONFIDENTIAL - EVIDENCE FILE

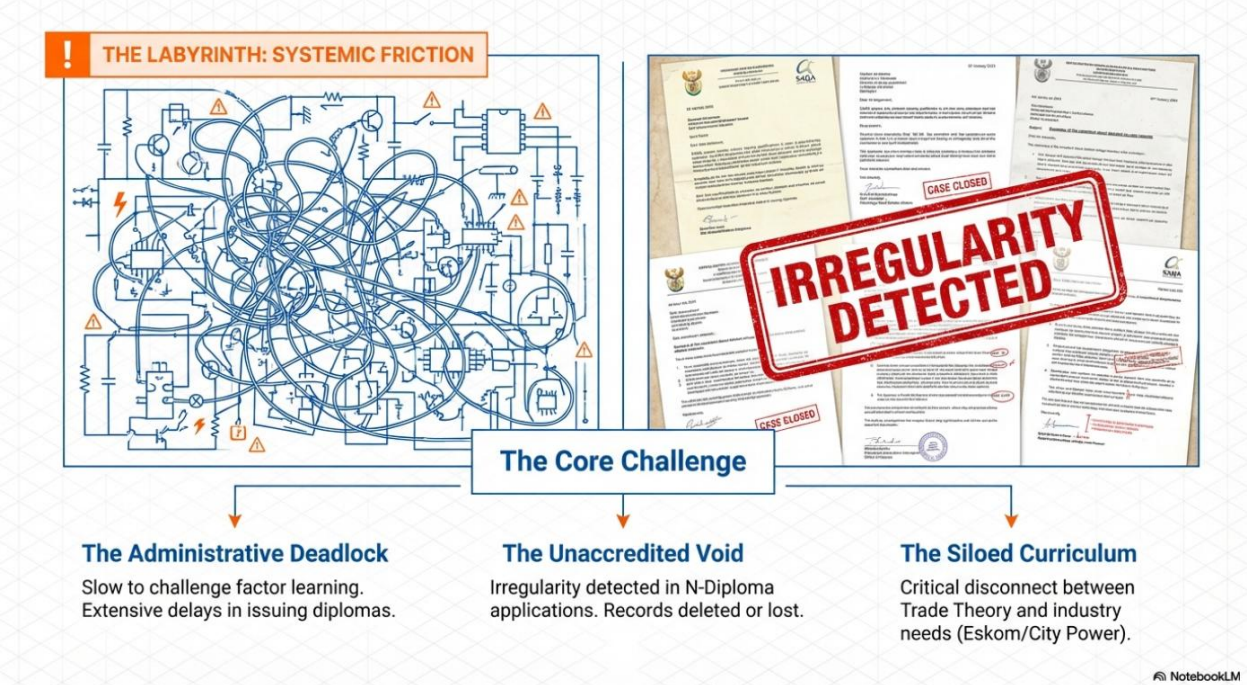
NotebookLM

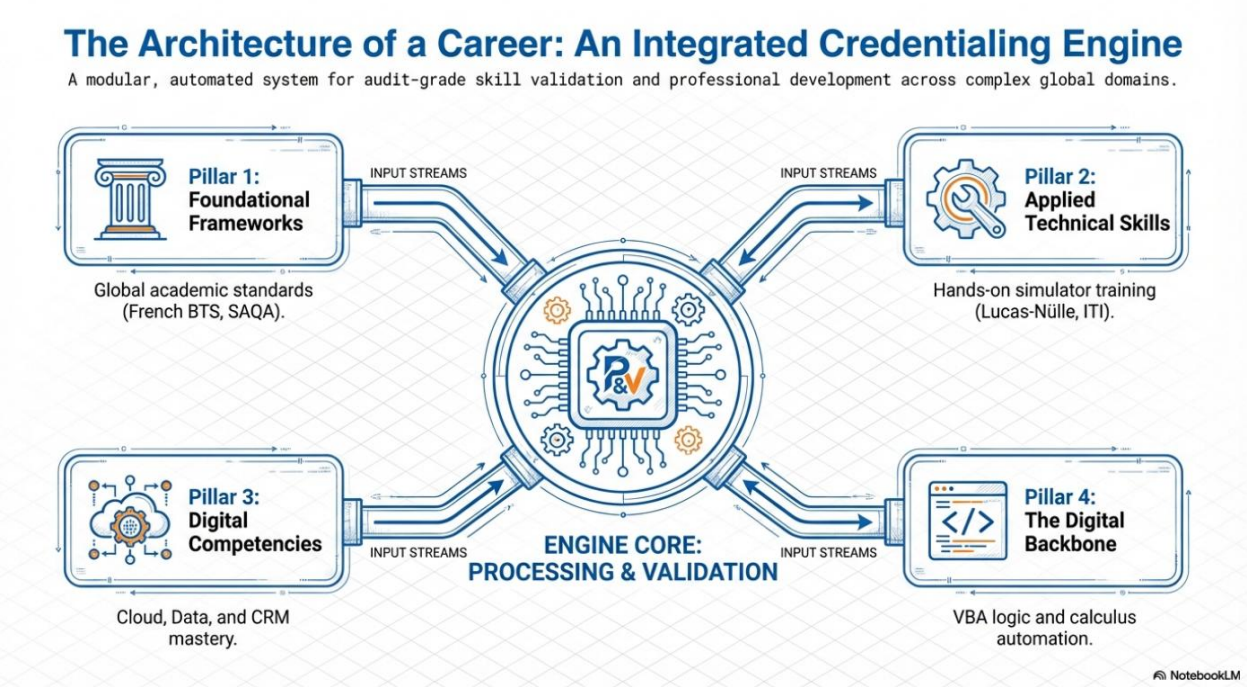
The Audit-Grade Career Engine

A Blueprint for Verifiable Competence.

Integrating Education, Industry, and Automation into a Single Source of Truth. | A modular framework synthesizing formal education, vocational training, and workplace experience.

NotebookLM


THE LABYRINTH: SYSTEMIC FRICTION
IRREGULARITY DETECTED
CASE CLOSED
The Core Challenge
The Administrative Deadlock
Slow to challenge factor learning. Extensive delays in issuing diplomas.
The Unaccredited Void
Irregularity detected in N-Diploma applications. Records deleted or lost.
The Siloed Curriculum
Critical disconnect between Trade Theory and industry needs (Eskom/City Power).
NotebookLM


The Architecture of a Career: An Integrated Credentialing Engine
A modular, automated system for audit-grade skill validation and professional development across complex global domains.
Pillar 1: Foundational Frameworks
Global academic standards (French BTS, SAQA).
Pillar 2: Applied Technical Skills
Hands-on simulator training (Lucas-Nülle, ITI).
Pillar 3: Digital Competencies
Cloud, Data, and CRM mastery.
Pillar 4: The Digital Backbone
VBA logic and calculus automation.
INPUT STREAMS
ENGINE CORE: PROCESSING & VALIDATION
NotebookLM

Bridging Global Theory with Applied Diagnostics

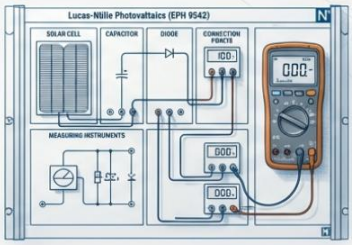
THEORY: Global Standards

French Standard: Brevet de Technicien Supérieur (BTS) Électrotechnique.

Competency Block: RNCP41007BC01 - RNCP41007BC01 – Étude et conception préliminaire d'une installation.

SAQA Standard: NQF Level 3 (ID 72071) - Electrical Engineering Core.

PRACTICE: Applied Diagnostics



German Didactics: Lucas-Nülle UniTrain for fault simulation.

Vocational Skill: NIMI Curriculum Module 3: Wires, Joints - Soldering - U.G. Cables (125 Hrs).

NotebookLM

Mastering the Toolset of the Digital Economy

Cloud & Data Engineering

Microsoft Learn: Data Concepts with Microsoft Fabric & Azure Synapse Analytics

Enterprise Platforms

salesforce

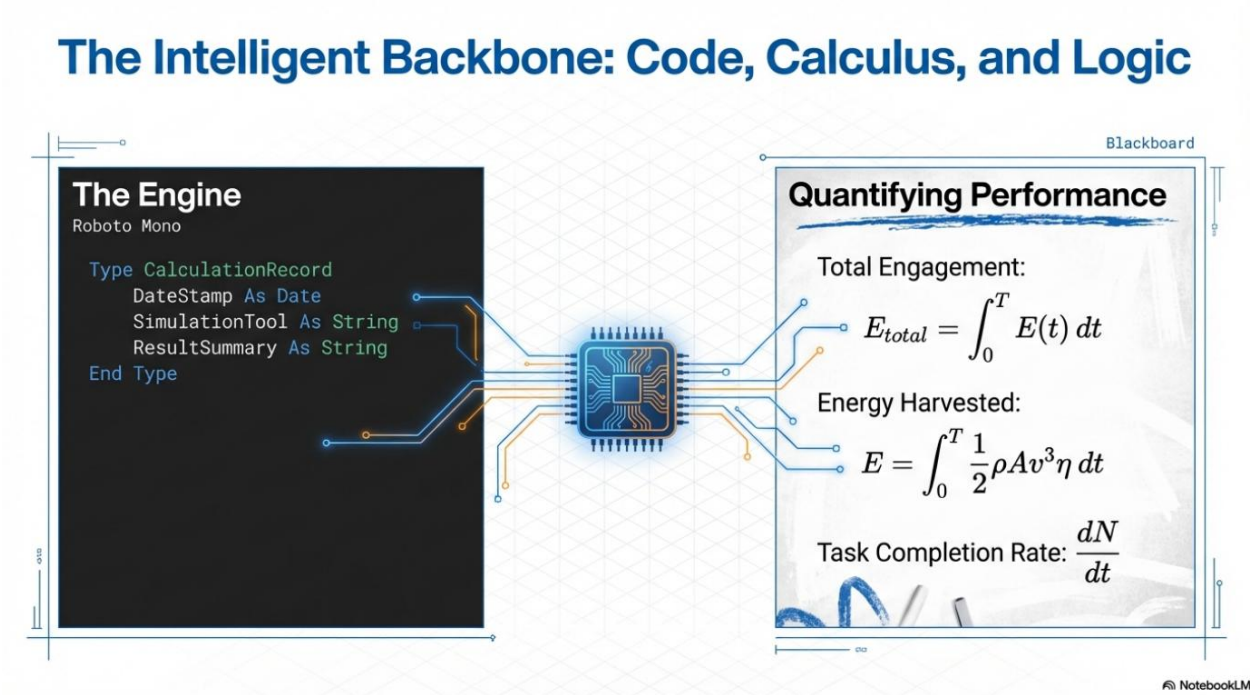
Salesforce Career Pathways: Technical Architect, API Integration

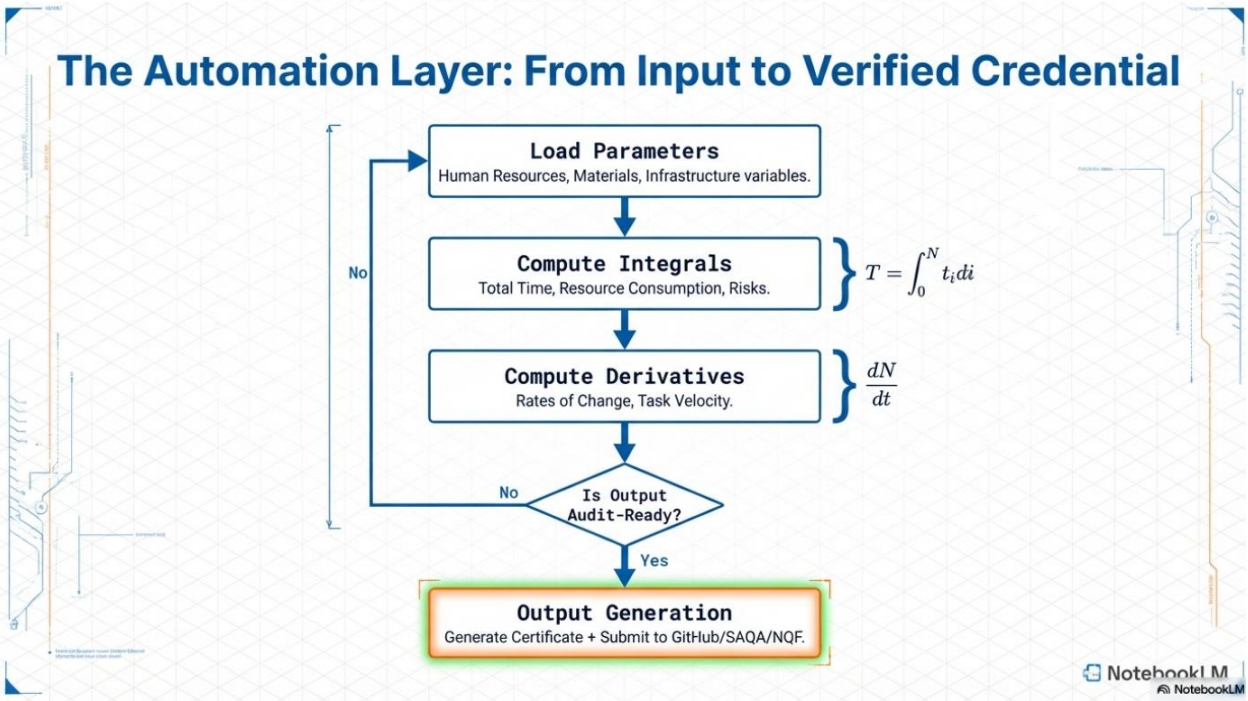
Digital Verification

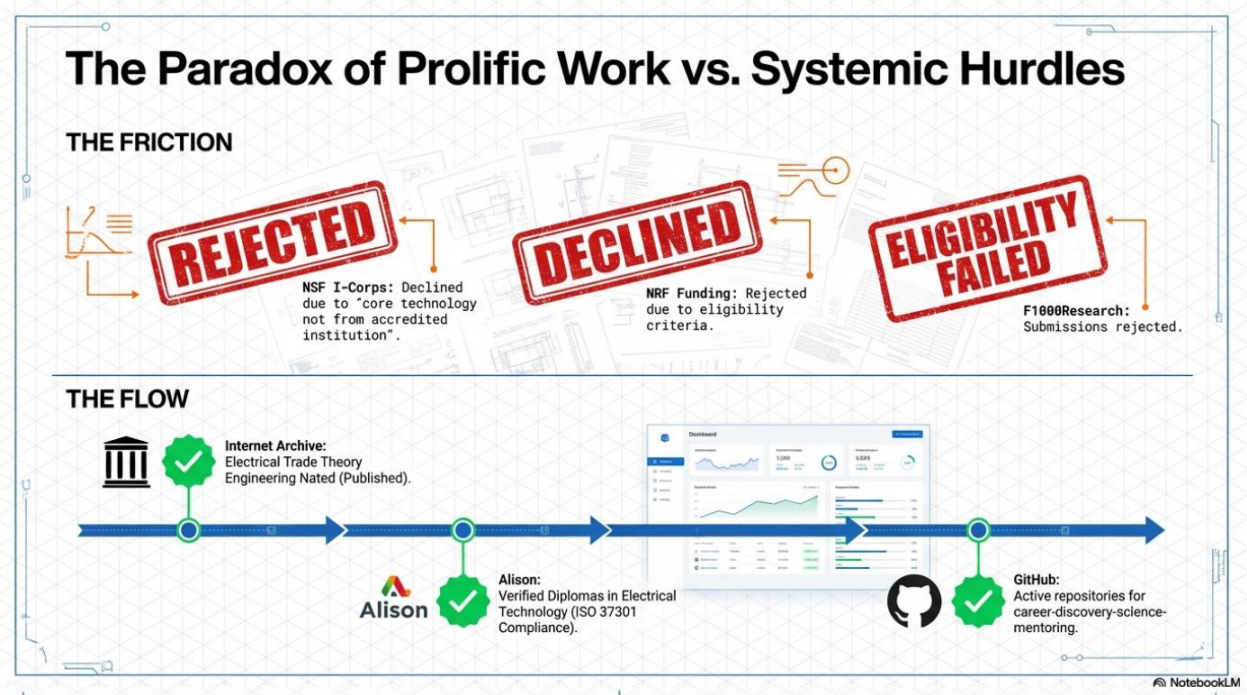
BlockMark Technologies: Blockchain-stamped digital credentials

PERFORMANCE METRIC: Aptitude Test Result - Scored better than 6% of global test-takers (Alison)

NotebookLM


The Intelligent Backbone: Code, Calculus, and Logic
The Engine
Roboto Mono
Type CalculationRecord
DateStamp As Date
SimulationTool As String
ResultSummary As String
End Type
Blackboard
Quantifying Performance
Total Engagement:
$E_{total} = \int_0^T E(t)\,dt$
Energy Harvested:
$E = \int_0^T \frac{1}{2}\rho A v^3 \eta\,dt$
Task Completion Rate: $\frac{dN}{dt}$
NotebookLM


The Automation Layer: From Input to Verified Credential
Load Parameters
Human Resources, Materials, Infrastructure variables.
Compute Integrals
Total Time, Resource Consumption, Risks.
$T = \int_0^N t_i di$
Compute Derivatives
Rates of Change, Task Velocity.
$\frac{dN}{dt}$
Is Output Audit-Ready?
No
No
Yes
Output Generation
Generate Certificate + Submit to GitHub/SAQA/NQF.
NotebookLM
NotebookLM


The Paradox of Prolific Work vs. Systemic Hurdles
THE FRICTION
REJECTED
NSF I-Corps: Declined due to "core technology not from accredited institution".
DECLINED
NRF Funding: Rejected due to eligibility criteria.
ELIGIBILITY FAILED
F1000Research: Submissions rejected.
THE FLOW
Internet Archive: Electrical Trade Theory Engineering Nated (Published).
Alison
Alison: Verified Diplomas in Electrical Technology (ISO 37301 Compliance).
GitHub: Active repositories for career-discovery-science-mentoring.
NotebookLM

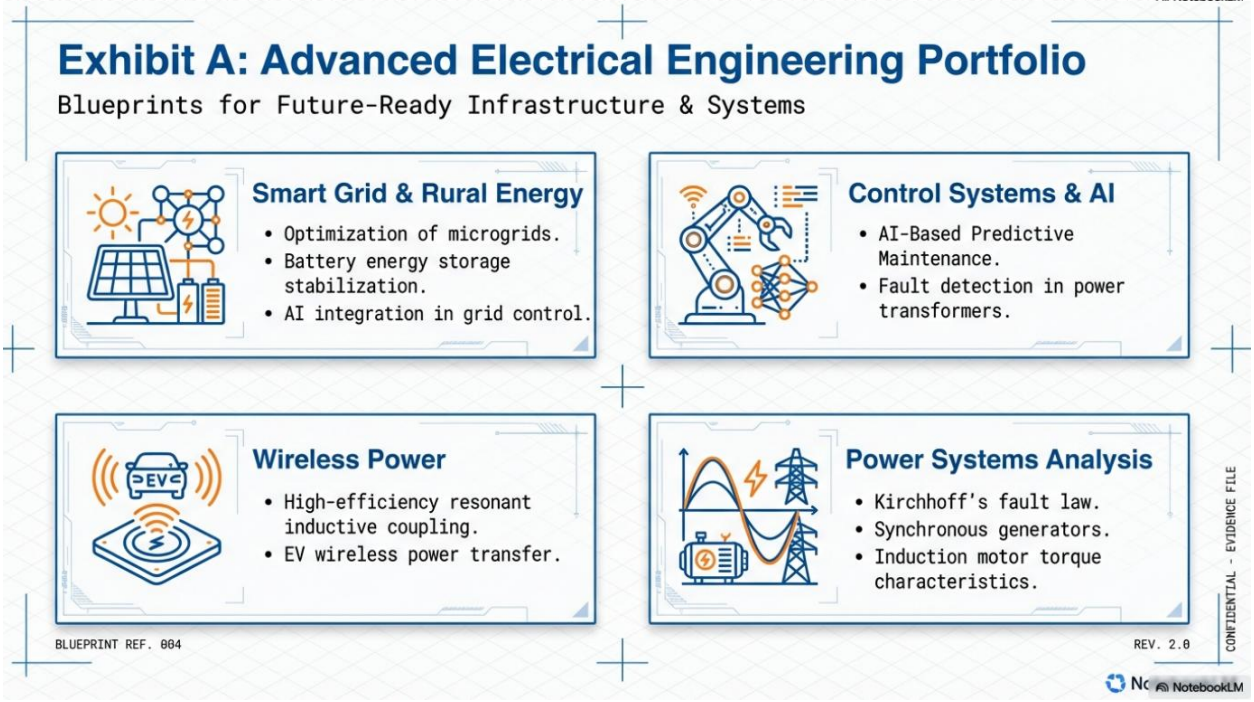


Exhibit A: Advanced Electrical Engineering Portfolio
Blueprints for Future-Ready Infrastructure & Systems
Smart Grid & Rural Energy
• Optimization of microgrids.
• Battery energy storage stabilization.
• AI integration in grid control.
Control Systems & AI
• AI-Based Predictive Maintenance.
• Fault detection in power transformers.
Wireless Power
• High-efficiency resonant inductive coupling.
• EV wireless power transfer.
Power Systems Analysis
• Kirchhoff's fault law.
• Synchronous generators.
• Induction motor torque characteristics.
BLUEPRINT REF. 004
REV. 2.0
CONFIDENTIAL - EVIDENCE FILE
NotebookLM

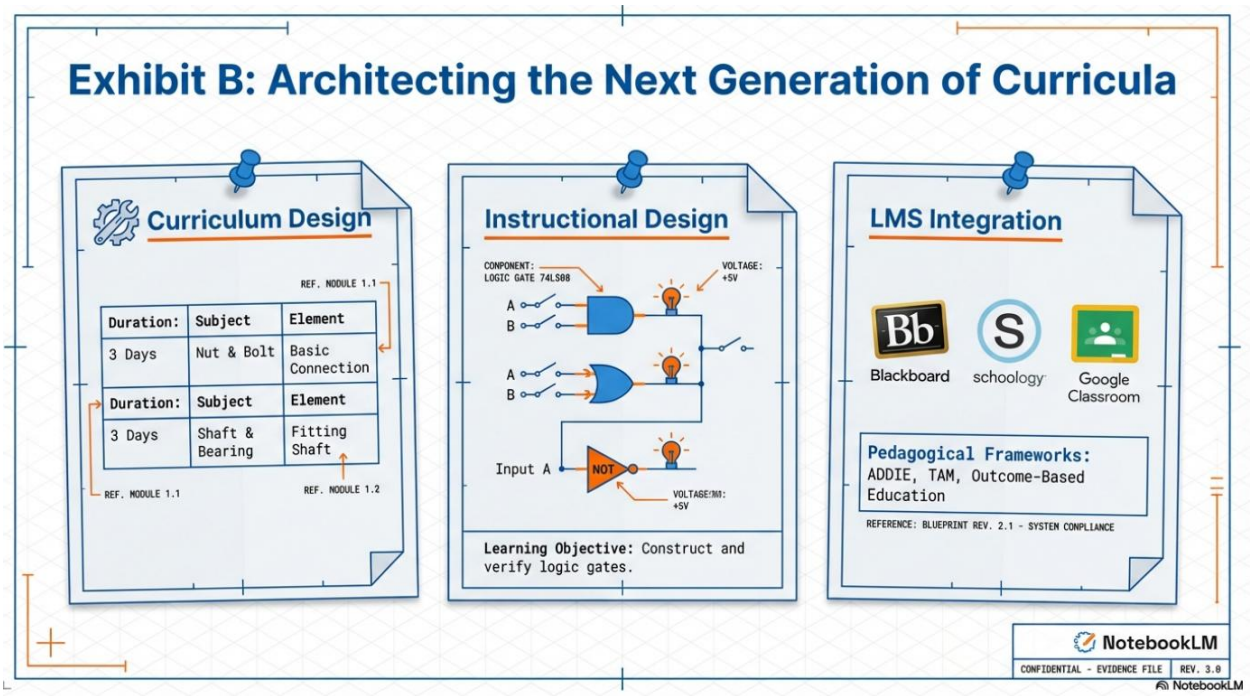
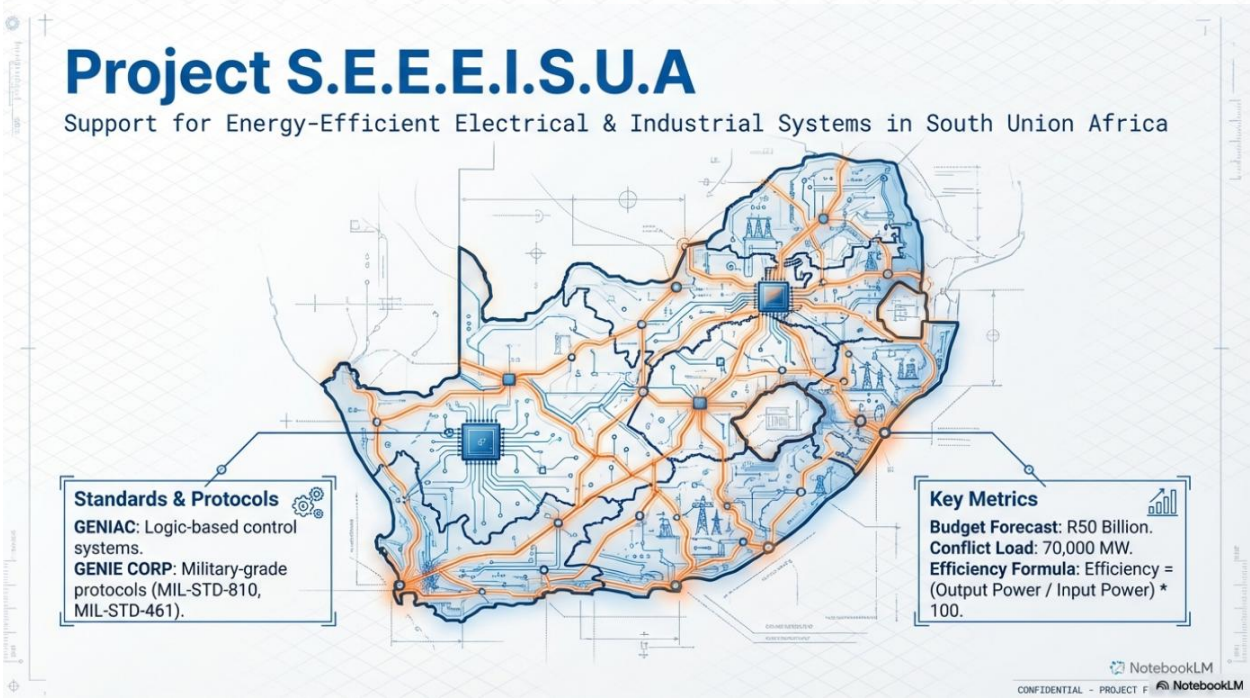
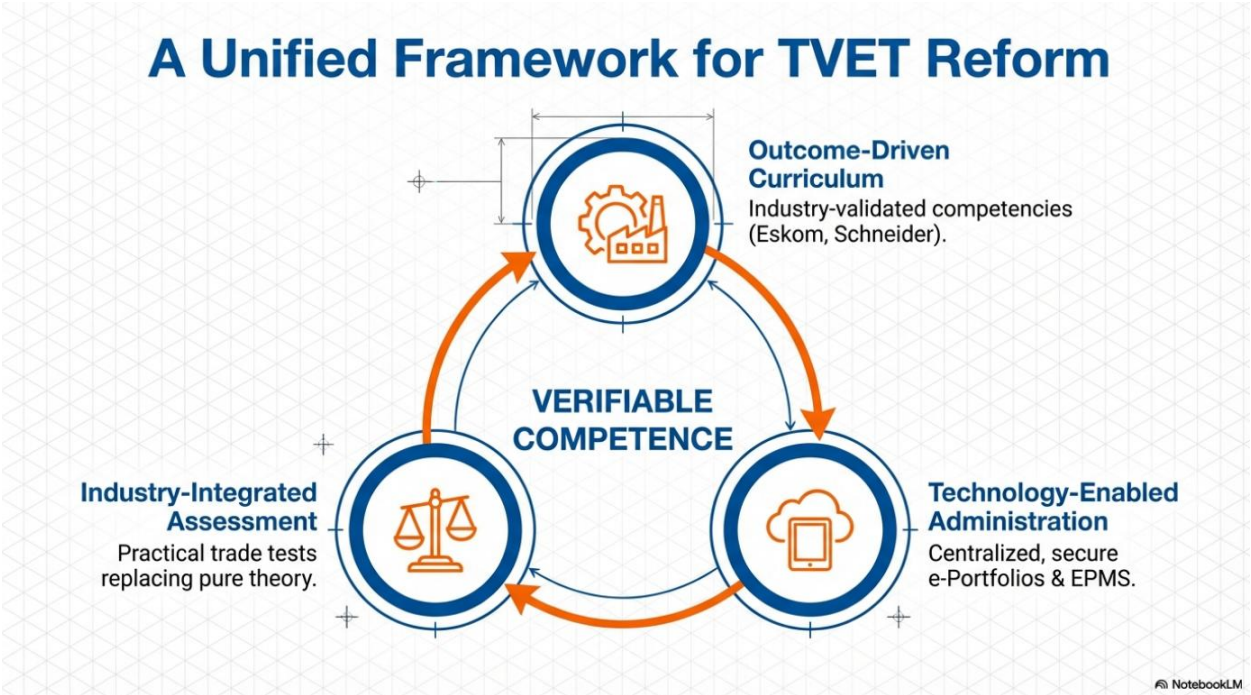
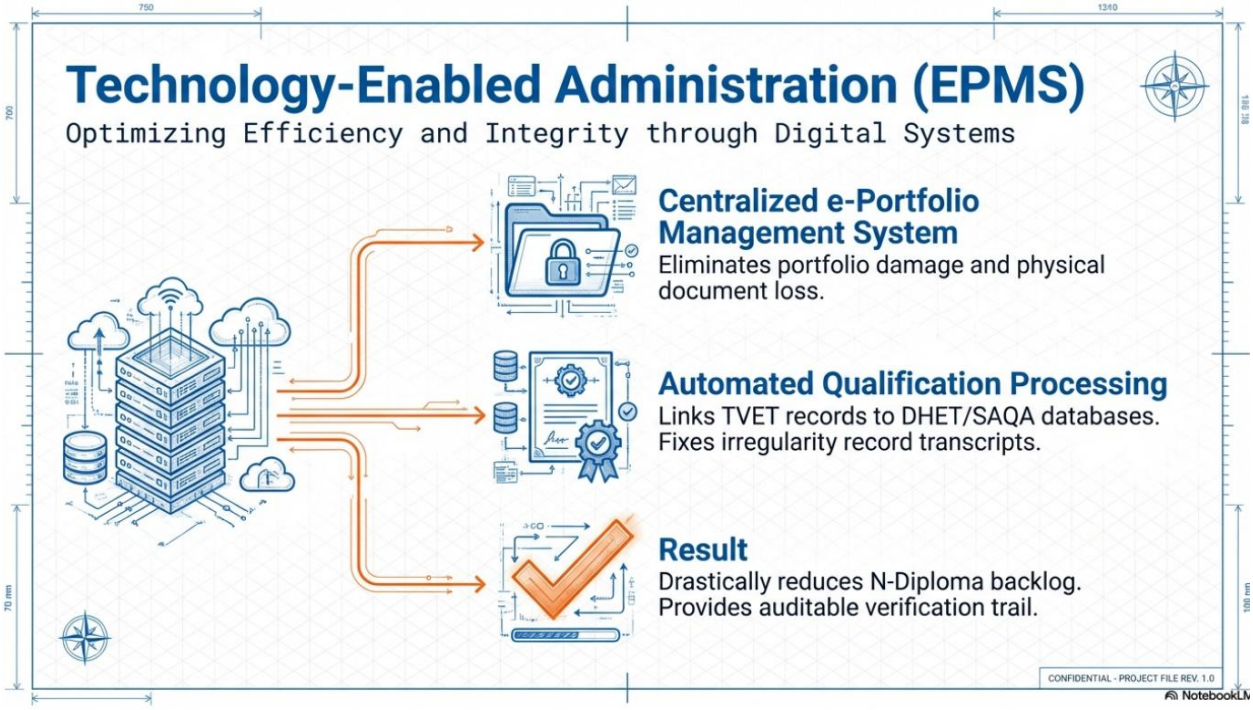


Exhibit B: Architecting the Next Generation of Curricula
Curriculum Design
REF. MODULE 1.1
Duration: | Subject | Element
3 Days | Nut & Bolt | Basic Connection
Duration: | Subject | Element
3 Days | Shaft & Bearing | Fitting Shaft
REF. MODULE 1.1
REF. MODULE 1.2
Instructional Design
CONPONENT: LOGIC GATE 74LS08
VOLTAGE: +5V
A
B
A
B
Input A
NOT
VOLTAGE: +5V
Learning Objective: Construct and verify logic gates.
LMS Integration
Blackboard
schoology
Google Classroom
Pedagogical Frameworks: ADDIE, TAM, Outcome-Based Education
REFERENCE: BLUEPRINT REV. 2.1 - SYSTEM COMPLIANCE
NotebookLM
CONFIDENTIAL - EVIDENCE FILE
REV. 3.0
NotebookLM


Project S.E.E.E.I.S.U.A
Support for Energy-Efficient Electrical & Industrial Systems in South Union Africa
Standards & Protocols
GENIAC: Logic-based control systems.
GENIE CORP: Military-grade protocols (MIL-STD-810, MIL-STD-461).
Key Metrics
Budget Forecast: R50 Billion.
Conflict Load: 70,000 MW.
Efficiency Formula: Efficiency = (Output Power / Input Power) * 100.
NotebookLM
CONFIDENTIAL - PROJECT F
NotebookLM


A Unified Framework for TVET Reform
Outcome-Driven Curriculum
Industry-validated competencies (Eskom, Schneider).
VERIFIABLE COMPETENCE
Industry-Integrated Assessment
Practical trade tests replacing pure theory.
Technology-Enabled Administration
Centralized, secure e-Portfolios & EPMS.
NotebookLM


Technology-Enabled Administration (EPMS)
Optimizing Efficiency and Integrity through Digital Systems
Centralized e-Portfolio Management System
Eliminates portfolio damage and physical document loss.
Automated Qualification Processing
Links TVET records to DHET/SAQA databases.
Fixes irregularity record transcripts.
Result
Drastically reduces N-Diploma backlog.
Provides auditable verification trail.
CONFIDENTIAL - PROJECT FILE REV. 1.0
NotebookLM

The Case for a New Model of Expertise

- The evidence demonstrates sustained, high-level output of technical and pedagogical work against significant systemic friction.
- This journey has forged a unique, multi-disciplinary expertise that integrates core engineering, curriculum design, and global qualification systems.
- The challenge is no longer one of validation, but of recognition and engagement. The work stands on its own merit.

ENGAGE THE EXPERTISE. RECOGNIZE THE INNOVATION.

CONFIDENTIAL - PROJECT FILE REV. 1.0

Name: Tshingombe Tshitadi Fiston **Email:** tshingombefiston@gmail.com **Website:** www.tshingimbefiston.com **Profile:** archive.org/details/(

NotebookLM

Contact & References

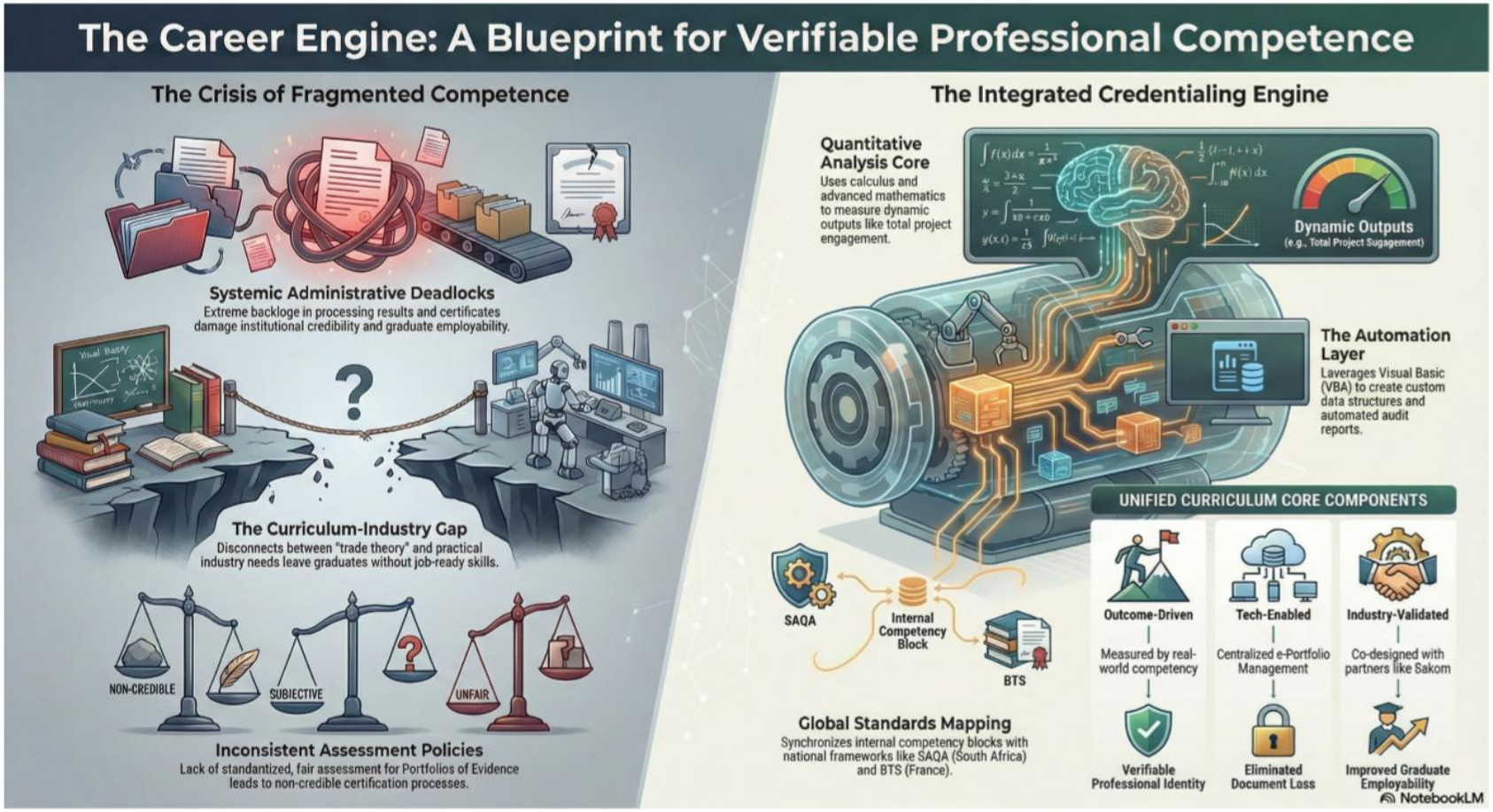
Tshingombe Tshitadi Fiston

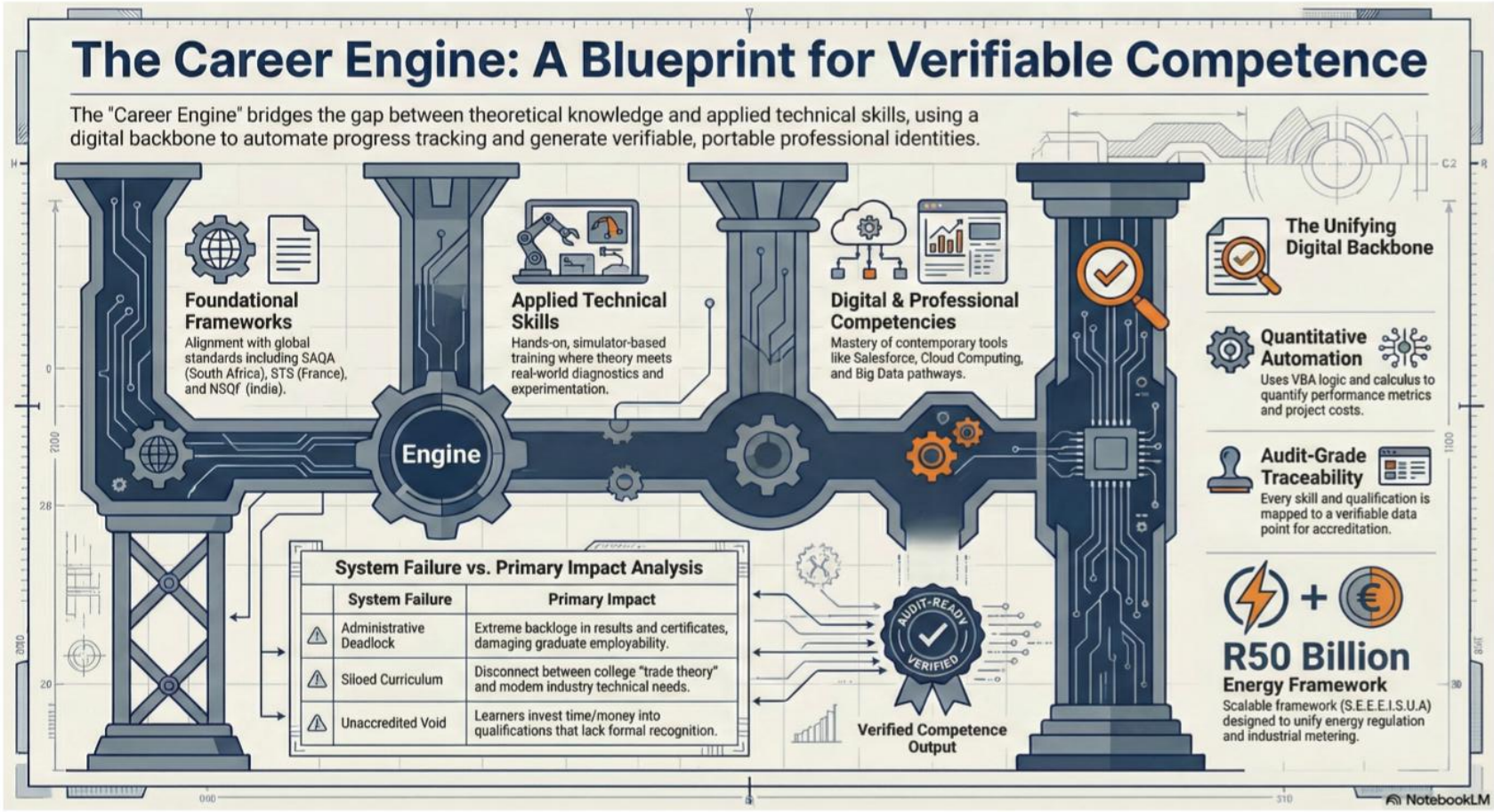
National-grade curriculum architect & compliance strategist.

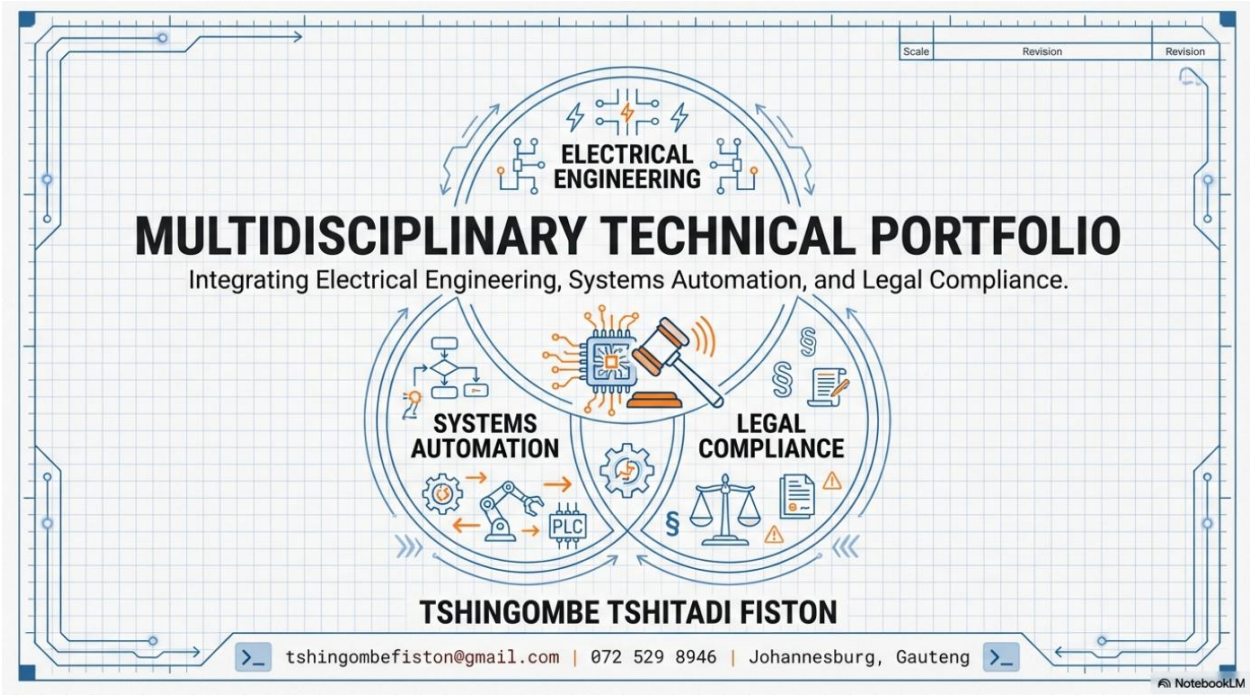
- Technical Standards:
  - MIL-STD-1394 (Calibration)
  - IEEE 1459 (Power Definitions)
  - SAQA/NQF Frameworks
- Digital Footprint:
  - Archive.org: Career Discovery Encyclopedia
  - Alison Verified Portfolio

SCAN FOR FULL DOSSIER

NotebookLM


The Career Engine: A Blueprint for Verifiable Professional Competence
The Crisis of Fragmented Competence
Systemic Administrative Deadlocks
Extreme backlogs in processing results and certificates damage institutional credibility and graduate employability.
The Curriculum-Industry Gap
Disconnects between "trade theory" and practical industry needs leave graduates without job-ready skills.
NON-CREDIBLE
SUBJECTIVE
UNFAIR
Inconsistent Assessment Policies
Lack of standardized, fair assessment for Portfolios of Evidence leads to non-credible certification processes.
The Integrated Credentialing Engine
Quantitative Analysis Core
Uses calculus and advanced mathematics to measure dynamic outputs like total project engagement.
Dynamic Outputs
(e.g., Total Project Sugagement)
The Automation Layer
Laverages Visual Basic (VBA) to create custom data structures and automated audit reports.
SAQA
Internal Competency Block
BTS
Global Standards Mapping
Synchronizes internal competency blocks with national frameworks like SAQA (South Africa) and BTS (France).
UNIFIED CURRICULUM CORE COMPONENTS
Outcome-Driven
Measured by real-world competency
Verifiable Professional Identity
Tech-Enabled
Centralized e-Portfolio Management
Eliminated Document Lass
Industry-Validated
Co-designed with partners like Sakom
Improved Graduate Employability
NotebookLM


The Career Engine: A Blueprint for Verifiable Competence
The "Career Engine" bridges the gap between theoretical knowledge and applied technical skills, using a digital backbone to automate progress tracking and generate verifiable, portable professional identities.
Foundational Frameworks
Alignment with global standards including SAQA (South Africa), STS (France), and NSQf (India).
Applied Technical Skills
Hands-on, simulator-based training where theory meets real-world diagnostics and experimentation.
Digital & Professional Competencies
Mastery of contemporary tools like Salesforce, Cloud Computing, and Big Data pathways.
Engine
The Unifying Digital Backbone
Quantitative Automation
Uses VBA logic and calculus to quantify performance metrics and project costs.
Audit-Grade Traceability
Every skill and qualification is mapped to a verifiable data point for accreditation.
R50 Billion
Energy Framework
Scalable framework (S.E.E.E.I.S.U.A) designed to unify energy regulation and industrial metering.
System Failure vs. Primary Impact Analysis
System Failure
Primary Impact
Administrative Deadlock
Extreme backloge in results and certificates, damaging graduate employability.
Siloed Curriculum
Disconnect between college "trade theory" and modern industry technical needs.
Unaccredited Void
Learners invest time/money into qualifications that lack formal recognition.
AUDIT-READY
VERIFIED
Verified Competence Output
NotebookLM



EXECUTIVE SUMMARY: THREE PILLARS OF COMPETENCE

ELECTRICAL & INDUSTRIAL

- Smart Grid Systems & 3-Phase Metering
- TeSys T Motor Management
- PV Installations (6.5kW - 250kW)
- PLC Communication Protocols

SOFTWARE & SYSTEMS

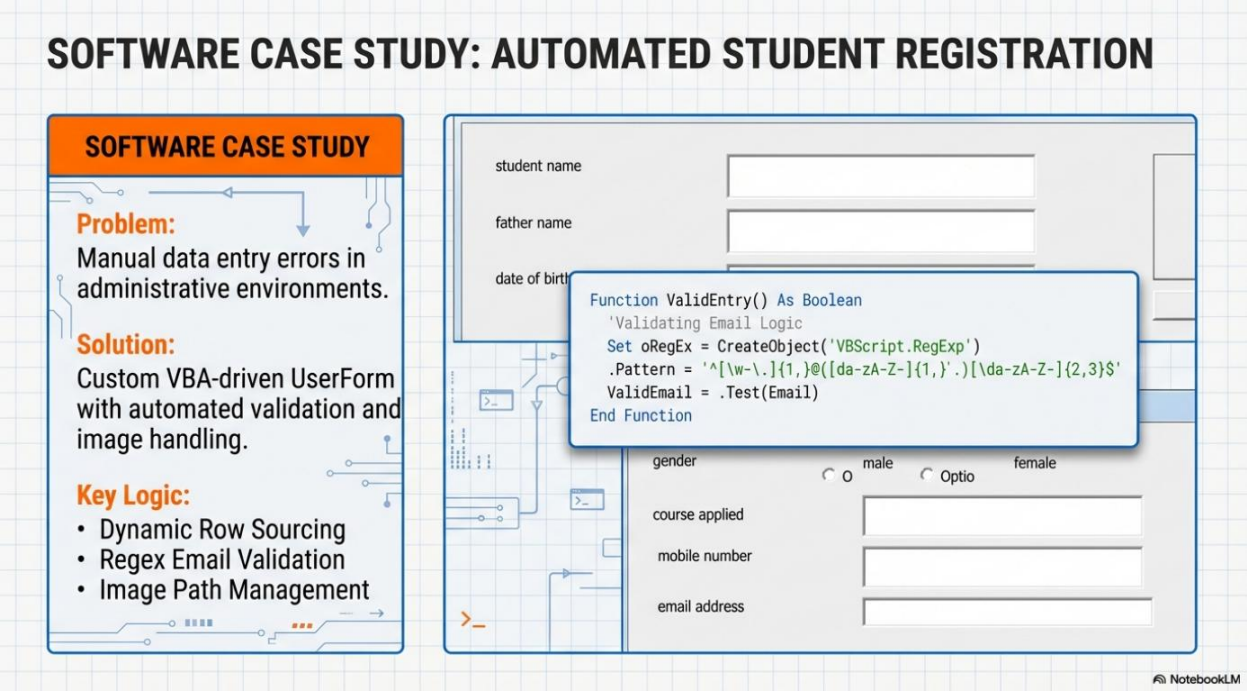
- Full-stack Solution Design (VB.NET, VBA)
- Automated Registration Systems
- Financial Transaction Simulation
- Database Management (MS Access)

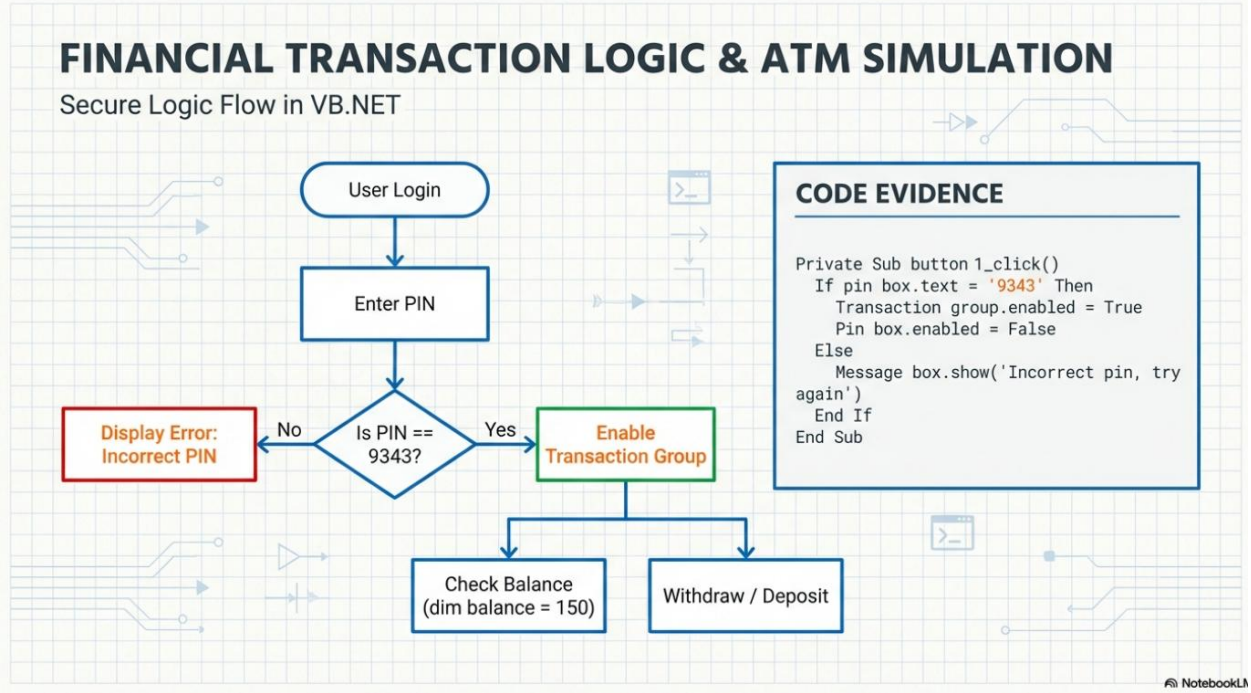
LEGAL & REGULATORY

- Domestic Violence Act 116 & Harassment Act 17
- Labour Court Procedures (CCMA)
- POPIA Data Privacy Compliance
- Protection Order Applications

"Solving modern infrastructure problems requires a seamless blend of code, circuitry, and law."

NotebookLM


SOFTWARE CASE STUDY: AUTOMATED STUDENT REGISTRATION
SOFTWARE CASE STUDY
Problem:
Manual data entry errors in administrative environments.
Solution:
Custom VBA-driven UserForm with automated validation and image handling.
Key Logic:
• Dynamic Row Sourcing
• Regex Email Validation
• Image Path Management
student name
father name
date of birth
Function ValidEntry() As Boolean
'Validating Email Logic
Set oRegEx = CreateObject('VBScript.RegExp')
.Pattern = '^[\w-\.]{1,}@([da-zA-Z-]{1,}'.)[\da-zA-Z-]{2,3}$'
ValidEmail = .Test(Email)
End Function
gender
male
female
course applied
mobile number
email address
NotebookLM

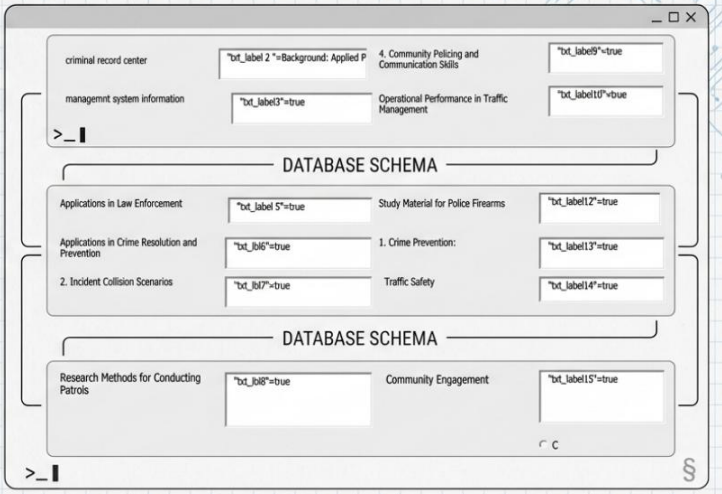

FINANCIAL TRANSACTION LOGIC & ATM SIMULATION
Secure Logic Flow in VB.NET
User Login
Enter PIN
Is PIN == 9343?
No
Display Error: Incorrect PIN
Yes
Enable Transaction Group
Check Balance (dim balance = 150)
Withdraw / Deposit
CODE EVIDENCE
Private Sub button 1_click()
If pin box.text = '9343' Then
Transaction group.enabled = True
Pin box.enabled = False
Else
Message box.show('Incorrect pin, try again')
End If
End Sub
NotebookLM

WEB-BASED CRIME MANAGEMENT SYSTEM

Samara City Station Case Study: Digitizing Police Records

SYSTEM OBJECTIVES

1. Digital Reporting (Citizen to Station)
2. Hotspot Identification (Heatmaps)
3. Resource Allocation (Data-driven Patrols)



NotebookLM

SMART GRID TECHNOLOGY & 3-PHASE METERING

Device Specs

Three-Phase AC Static Watt-Hour Smart Meter
Range: 240 VAC +20%
Current: 0-60A (Dynamic to 72A)
Frequency: 50Hz +5%

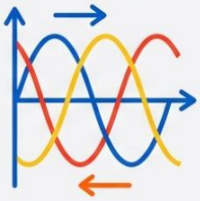
Hardware Components

CT Ratio: 2500/1
GPRS Module: Sim Card SBT IP6
Display: 8x16 Segment LCD

Measurement Logic (Calculus)

Active Energy:

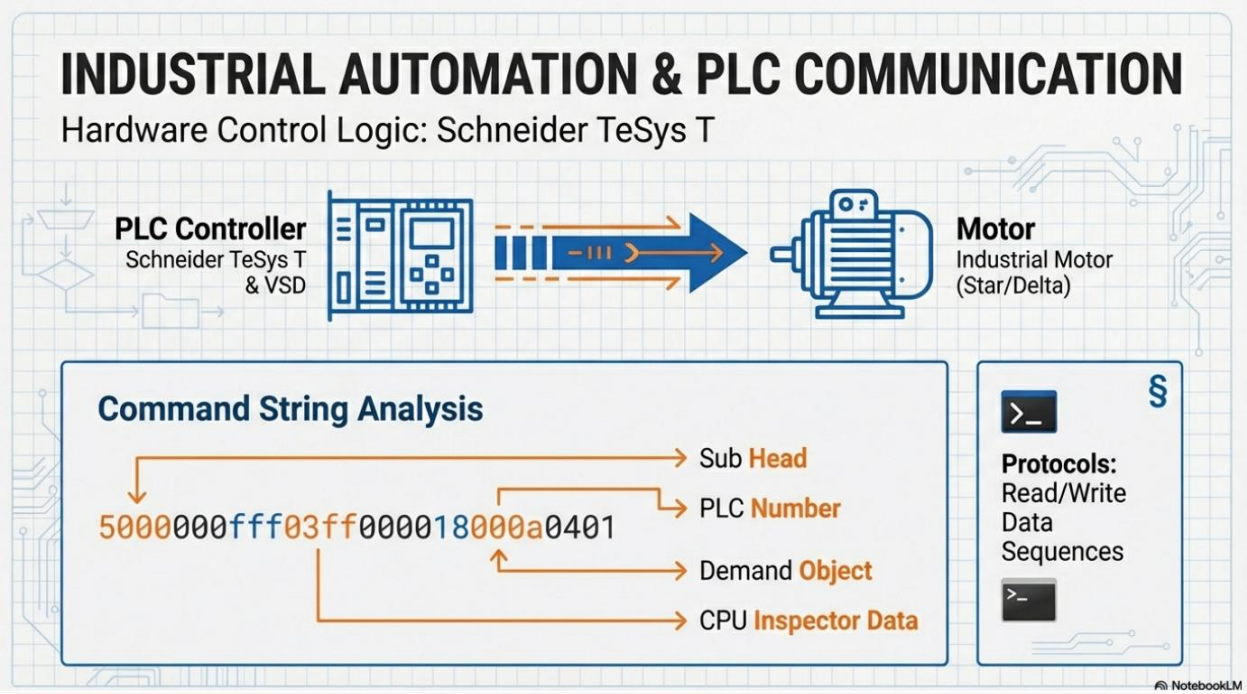
$$W_H = \int u_t . i_t dt$$

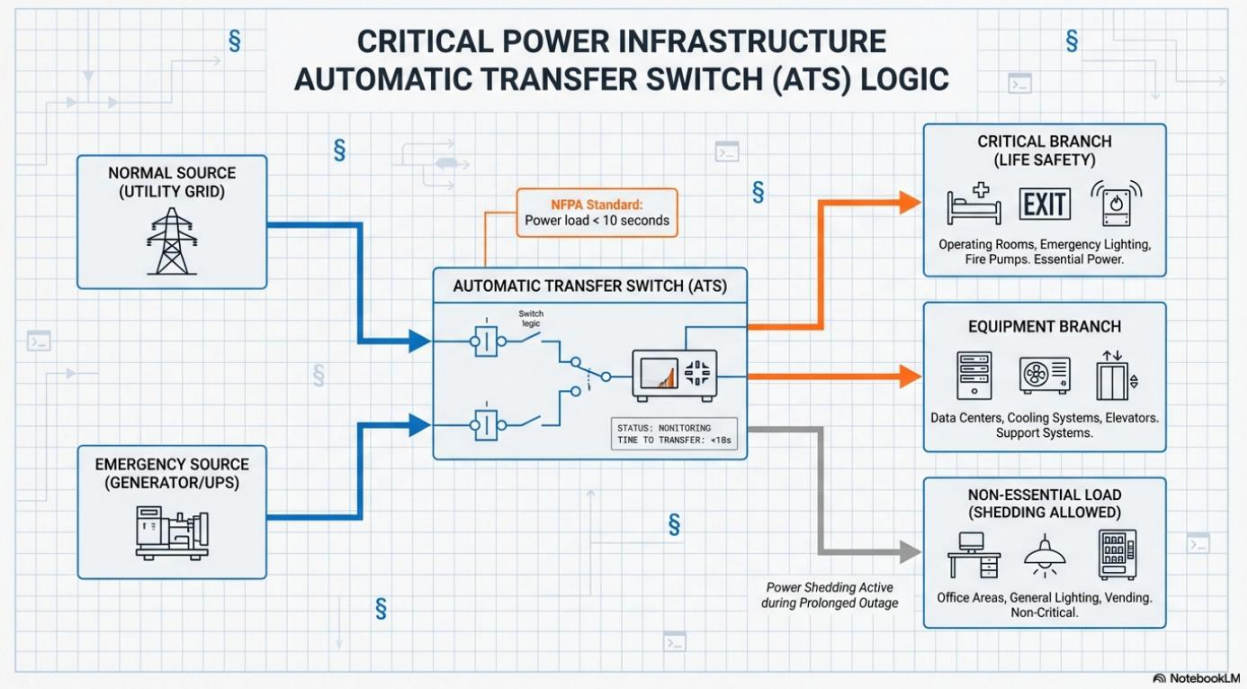


Reactive Power:

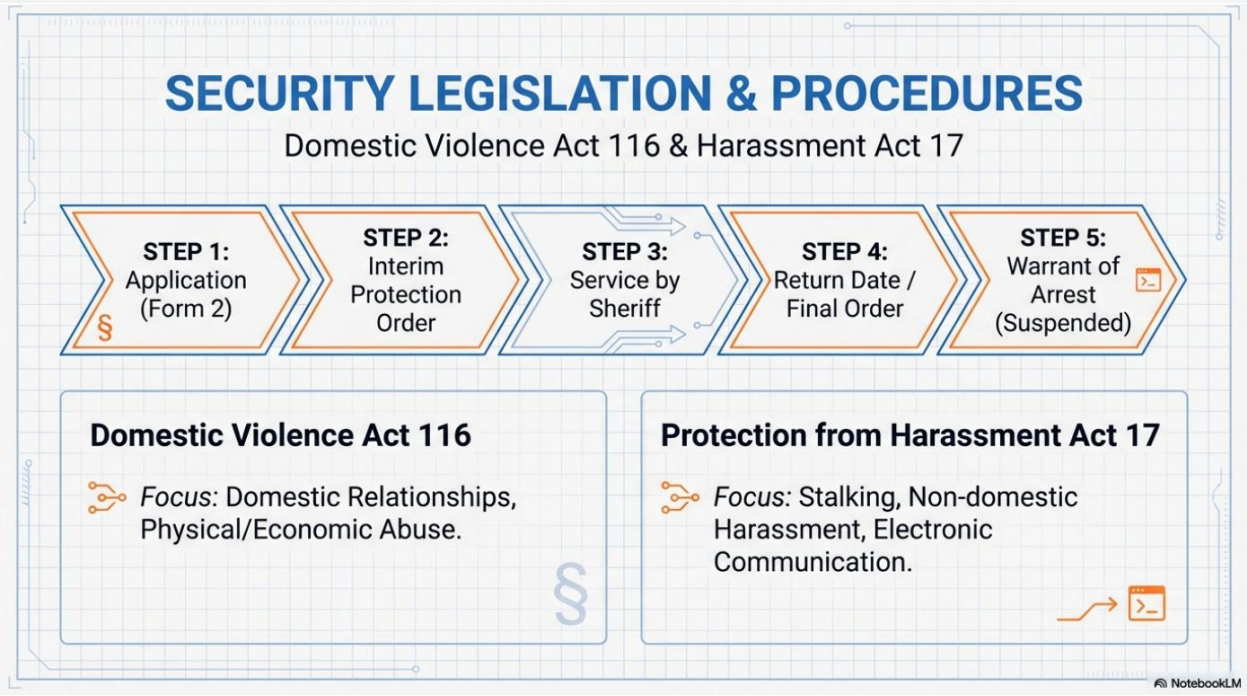
$$Q = \frac{1}{T} \int u_{t-90^\circ} . i_t dt$$

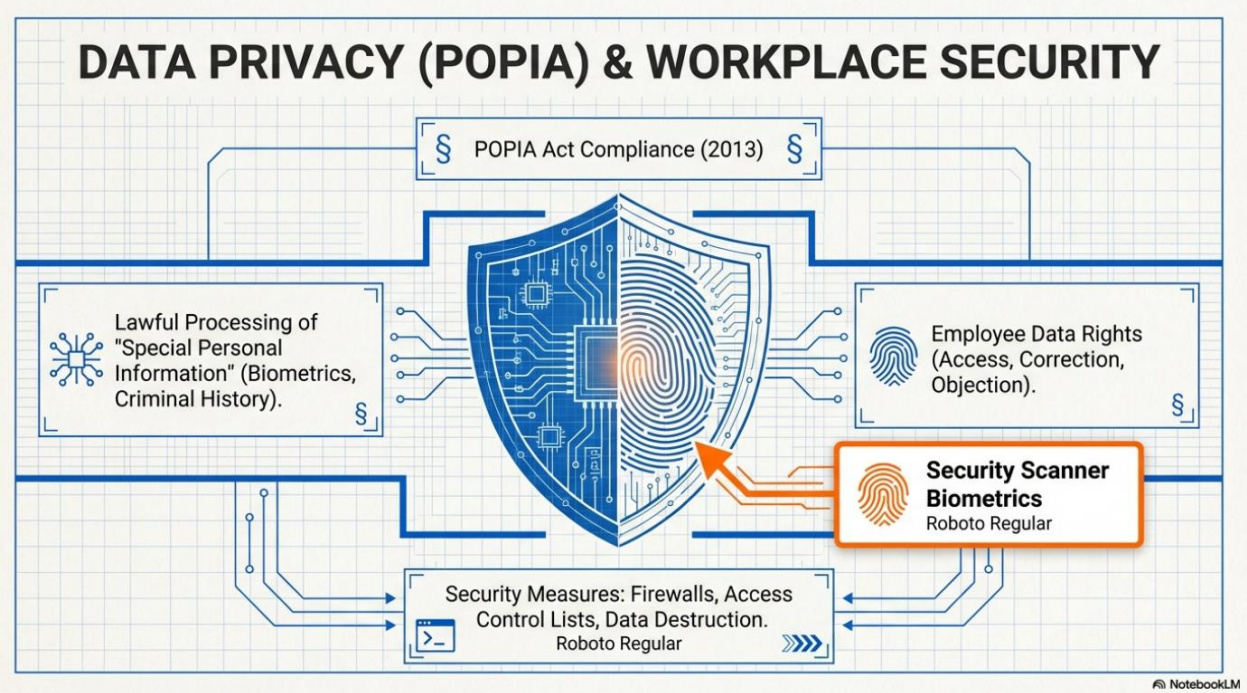
NotebookLM

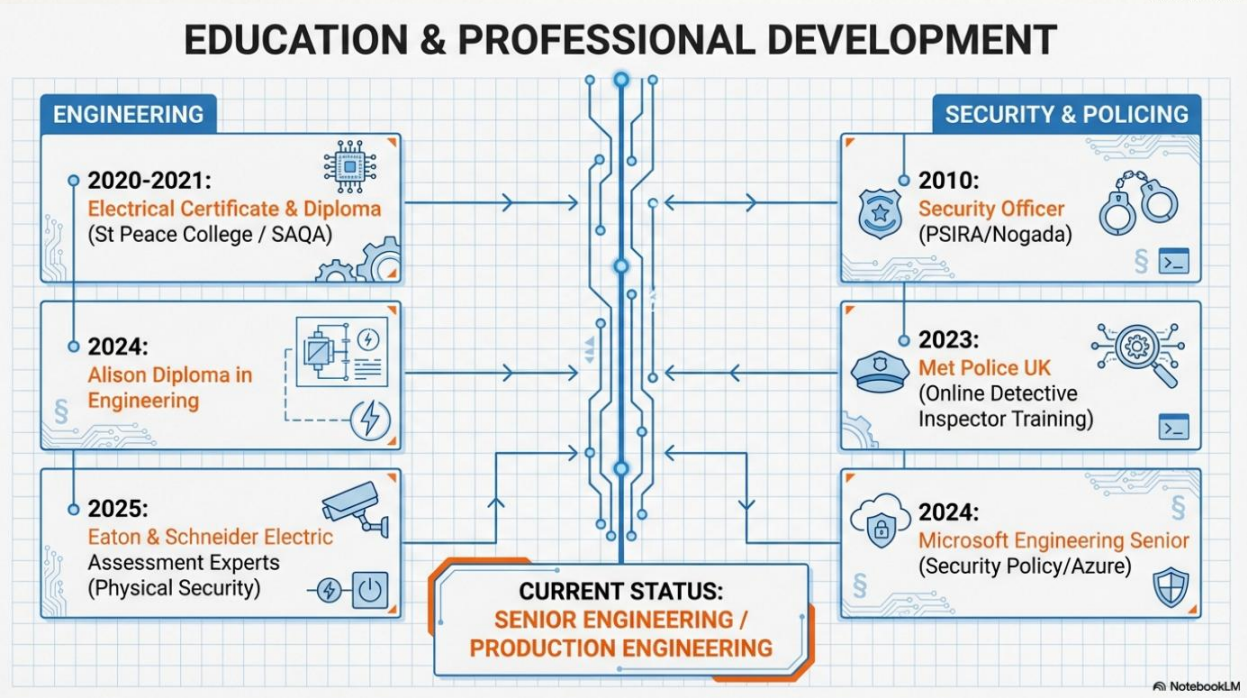

INDUSTRIAL AUTOMATION & PLC COMMUNICATION
Hardware Control Logic: Schneider TeSys T
PLC Controller
Schneider TeSys T & VSD
Motor
Industrial Motor (Star/Delta)
Command String Analysis
5000000fff03ff000018000a0401
Sub Head
PLC Number
Demand Object
CPU Inspector Data
Protocols: Read/Write Data Sequences
NotebookLM

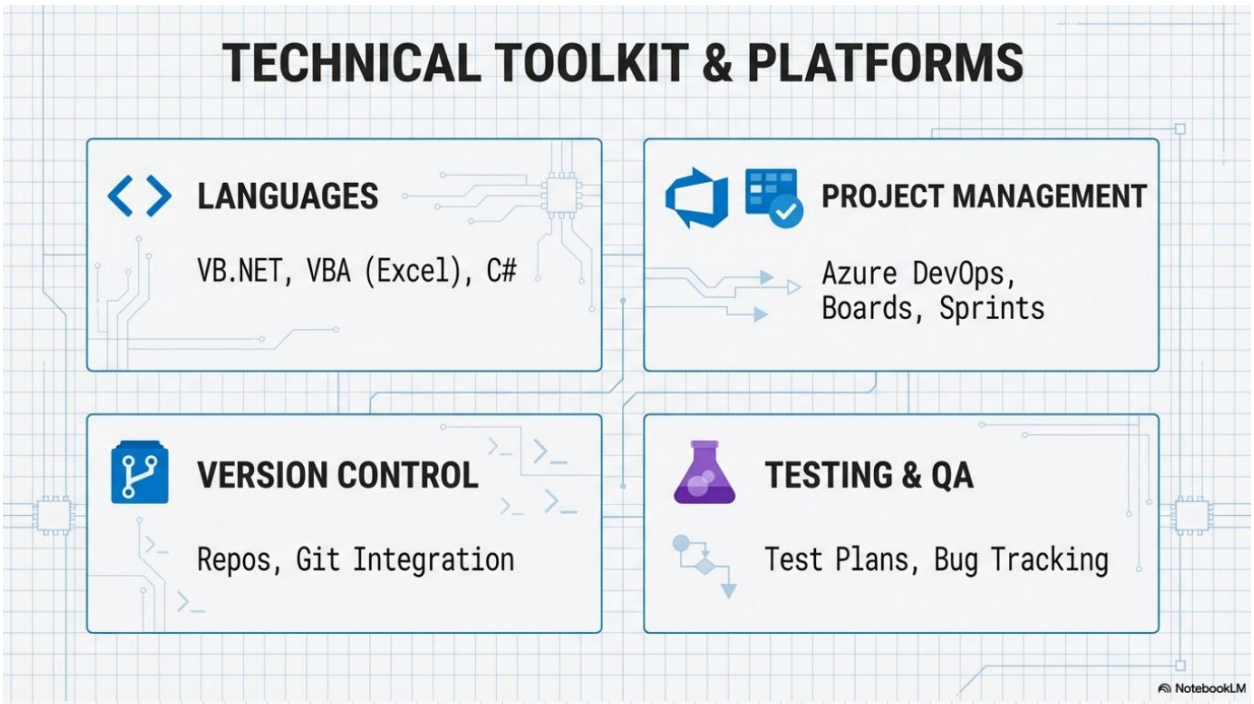

CRITICAL POWER INFRASTRUCTURE
AUTOMATIC TRANSFER SWITCH (ATS) LOGIC
NORMAL SOURCE (UTILITY GRID)
EMERGENCY SOURCE (GENERATOR/UPS)
NFPA Standard: Power load < 10 seconds
AUTOMATIC TRANSFER SWITCH (ATS)
Switch logic
STATUS: NONITORING
TINE TO TRANSFER: <18s
CRITICAL BRANCH (LIFE SAFETY)
EXIT
Operating Rooms, Emergency Lighting, Fire Pumps. Essential Power.
EQUIPMENT BRANCH
Data Centers, Cooling Systems, Elevators. Support Systems.
NON-ESSENTIAL LOAD (SHEDDING ALLOWED)
Office Areas, General Lighting, Vending. Non-Critical.
Power Shedding Active during Prolonged Outage
NotebookLM

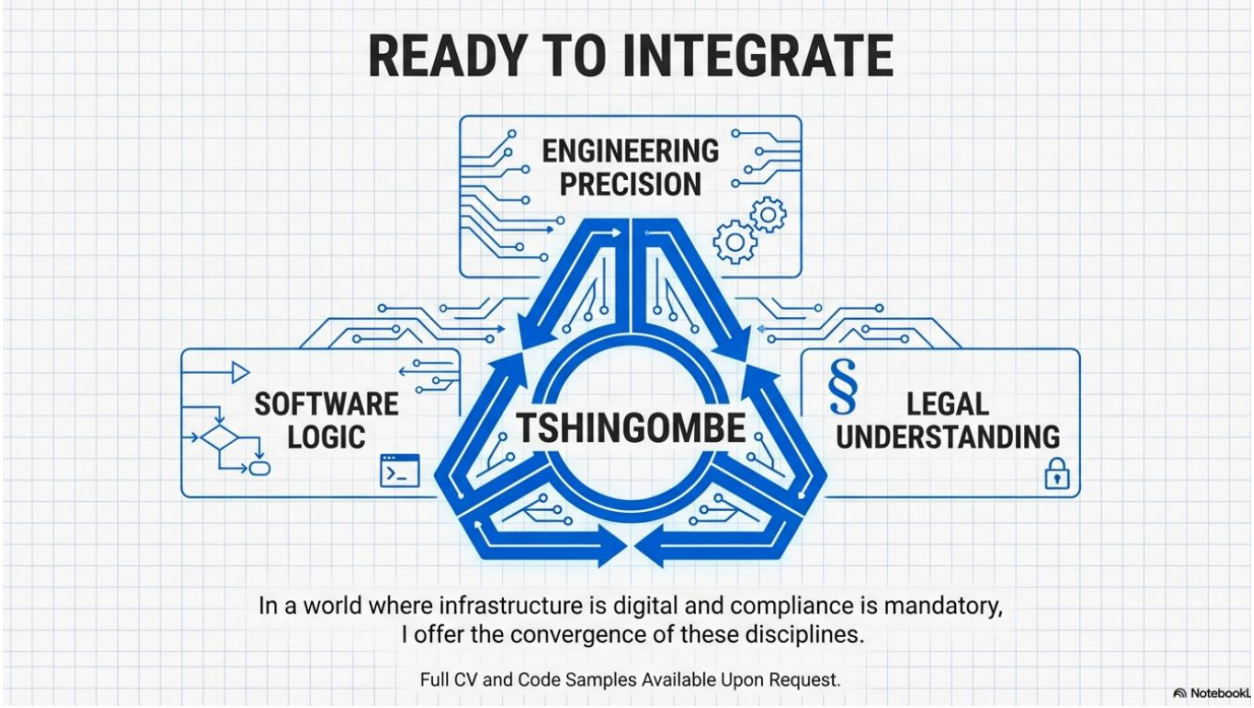
LEGAL COMPLIANCE & LABOUR LAW
Regulatory Framework Expertise
1. CCMA & Labour Court Referrals
2. Rescission Rulings & Reviews
3. National Bargaining Council (NBCPSS)
4. Drafting Founding Affidavits & Heads of Argument
Case Ref: JR 2461/15
Case Ref: JA 37/19
DELIVERED
Understanding the intersection of Technical Employment and Labour Law.
NotebookLM


SECURITY LEGISLATION & PROCEDURES
Domestic Violence Act 116 & Harassment Act 17
STEP 1: Application (Form 2)
STEP 2: Interim Protection Order
STEP 3: Service by Sheriff
STEP 4: Return Date / Final Order
STEP 5: Warrant of Arrest (Suspended)
Domestic Violence Act 116
Focus: Domestic Relationships, Physical/Economic Abuse.
Protection from Harassment Act 17
Focus: Stalking, Non-domestic Harassment, Electronic Communication.
NotebookLM


DATA PRIVACY (POPIA) & WORKPLACE SECURITY
POPIA Act Compliance (2013)
Lawful Processing of "Special Personal Information" (Biometrics, Criminal History).
Employee Data Rights (Access, Correction, Objection).
Security Scanner Biometrics
Roboto Regular
Security Measures: Firewalls, Access Control Lists, Data Destruction.
Roboto Regular
NotebookLM


EDUCATION & PROFESSIONAL DEVELOPMENT
ENGINEERING
2020-2021:
Electrical Certificate & Diploma
(St Peace College / SAQA)
2024:
Alison Diploma in Engineering
2025:
Eaton & Schneider Electric
Assessment Experts
(Physical Security)
SECURITY & POLICING
2010:
Security Officer
(PSIRA/Nogada)
2023:
Met Police UK
(Online Detective Inspector Training)
2024:
Microsoft Engineering Senior
(Security Policy/Azure)
CURRENT STATUS:
SENIOR ENGINEERING / PRODUCTION ENGINEERING
NotebookLM

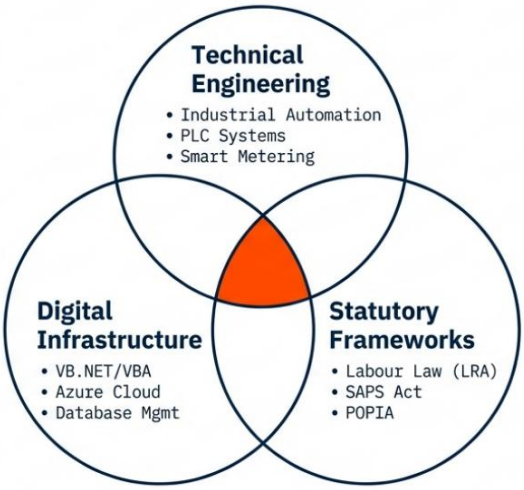

TECHNICAL TOOLKIT & PLATFORMS
LANGUAGES
VB.NET, VBA (Excel), C#
PROJECT MANAGEMENT
Azure DevOps, Boards, Sprints
VERSION CONTROL
Repos, Git Integration
TESTING & QA
Test Plans, Bug Tracking
NotebookLM


READY TO INTEGRATE
ENGINEERING PRECISION
SOFTWARE LOGIC
TSHINGOMBE
§
LEGAL UNDERSTANDING
In a world where infrastructure is digital and compliance is mandatory,
I offer the convergence of these disciplines.
Full CV and Code Samples Available Upon Request.
NotebookL

Portfolio of Evidence: Tshingombe Tshitadi

Multidisciplinary Competency in Engineering Technology, Information Systems, and Legal Compliance.

tshingombefiston@gmail.com | 072 529 8946 | Johannesburg, Gauteng



NotebookLM

Candidate Profile & Executive Summary

Bio Overview

42-year-old professional (Born 1982) with a career spanning over a decade in security services, engineering technical support, and legal self-representation.

A versatile professional combining technical hard skills with legal and administrative acumen.

Key Competencies

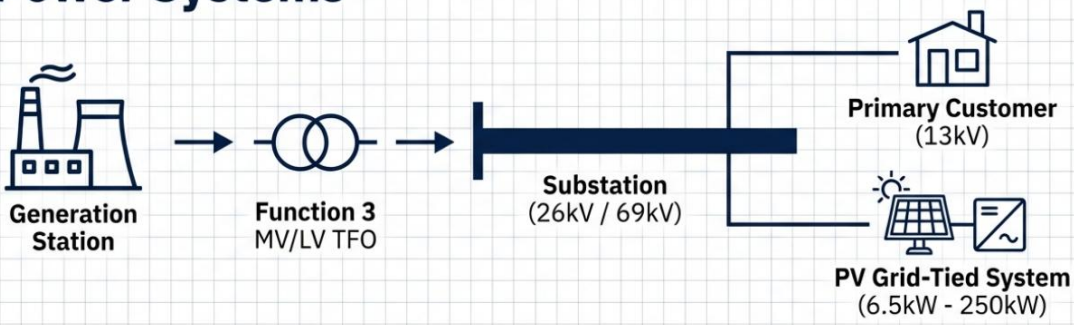
- **Operational Management:** Shift Command & Crime Prevention
- **Technical Proficiency:** Schneider Electric & Eaton Assessment Expert
- **Legal Acumen:** Labour Court Litigation (Case JA 37/19)

"From physical security operations to high-level technical engineering and legal advocacy."

2010
2020
Present
Security Officer & Operations
Nogada SA / Section One. Shift Command.
Academic & Technical Transition
St Peace College (Nated Engineering). Microsoft Security Training.
Engineering & Assessment Expert
Schneider Electric Cases. Social Justice Activism.

NotebookLM

Engineering Competency: Industrial Automation & Power Systems



Power Distribution

- PV Installation: 6.5kw to 250kw grid-tied
- Transmission: 138kV
- Protection: MV/LV Metering

Motor Management

- Hardware: TeSys T Motor Controller
- Safety: Thermal protection (Thermistor/PTC)
- Protocols: Clearance zones & wiring diagrams

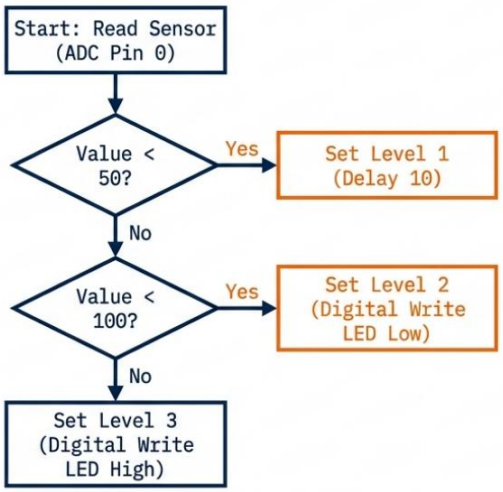
Logic Integration

- Ladder Logic Implementation
- Instruction List Snippets
- Function Block: General Connection MV/DB

NotebookLM

PLC Programming & System Architecture

```
// Network Configuration
IP_Address = 10.126.224.221;
Protocol = IEC61850;

// Command String Breakdown
Hex_String = 500000FF03FF;
// 5000 = Sub Header
// FF = PLC Number
// 03FF = Demand Object
// 000A = CPU Inspector Data
```



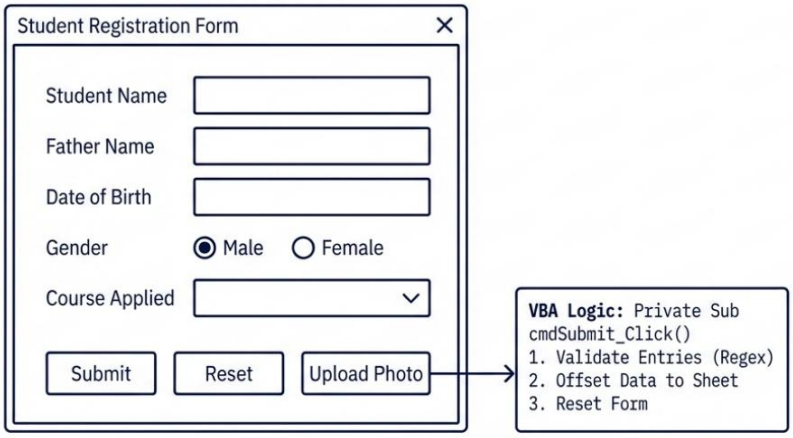
Basic Software Engineering Concepts applied to Electrical Problems: Testing, I/O Documentation, and Logic Gate Sequencing.

NotebookLM

Automated Administration Systems (VBA & Excel)

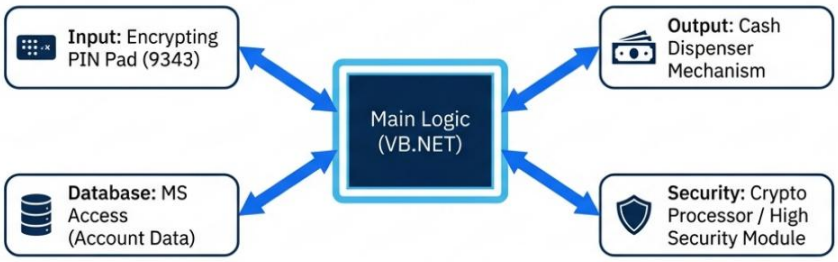
Case Study: Student Registration

- Objective: Automate manual entry of biodata.
- Implementation: Custom VBA UserForms with data validation.
- Outcome: Streamlined administrative workflow.



NotebookLM

Software Simulation: Banking & Transaction Logic


Input: Encrypting PIN Pad (9343)
Main Logic (VB.NET)
Output: Cash Dispenser Mechanism
Database: MS Access (Account Data)
Security: Crypto Processor / High Security Module

Core Functions:

- Registration, Login, Withdrawal, Balance Inquiry.

Code Snippet

```
Const service_charge = 6.5

If pin_box.Text = '9343' Then
    Enable_Transaction()
Else
    Lock_Account()
End If

Function Deposit(amount)
    Balance = Balance + Amount
End Function
```

NotebookLM

Information Systems in Public Safety

Samara City Police Station - Crime Management System

Module A: Criminal Record Center

Background Checks
☑ true

Applied Policing
☑ true

Crime Scene Management
☑ true

Module B: Traffic & Operations

Incident Collision Scenarios
☑ true

Operational Performance
☑ true

Traffic Safety
☐ true

Module C: Community & Investigation

Community Policing
☑ true

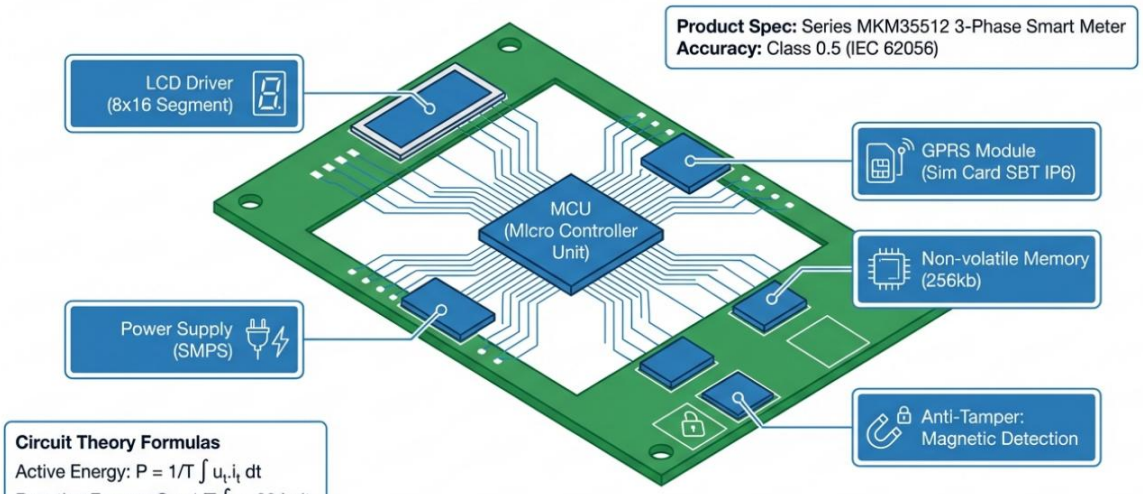
Research Methods for Patrols
☑ true

Investigation Principles
☐ true

Problem: Manual paper dockets.
Solution: Integrated digital interface for hotspot analysis and data retrieval.

NotebookLM

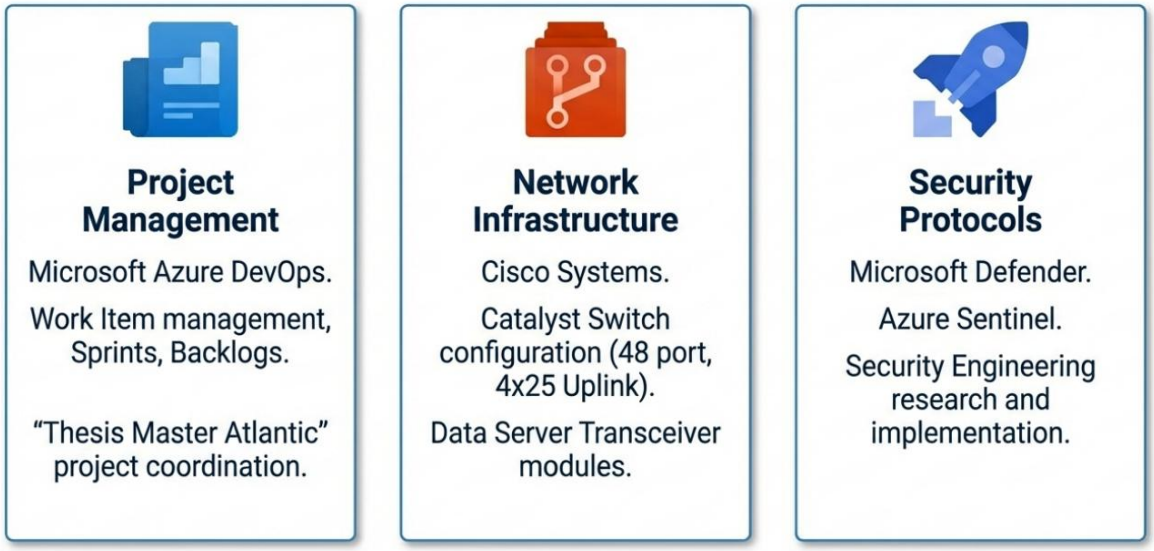
Hardware Design: Smart Metering Technology


Product Spec: Series MKM35512 3-Phase Smart Meter
Accuracy: Class 0.5 (IEC 62056)
LCD Driver (8x16 Segment)
GPRS Module (Sim Card SBT IP6)
MCU (Micro Controller Unit)
Non-volatile Memory (256kb)
Power Supply (SMPS)
Anti-Tamper: Magnetic Detection

Circuit Theory Formulas
Active Energy: $P = 1/T \int u_t.i_t \, dt$
Reactive Energy: $Q = 1/T \int u_t\text{-}90.i_t \, dt$

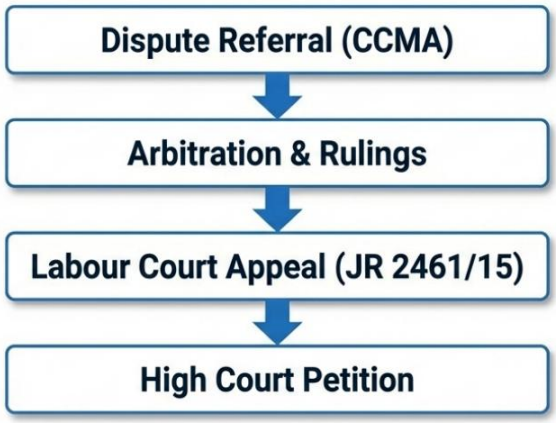
NotebookLM

Cloud Infrastructure & Enterprise Security



NotebookLM

Legal Frameworks & Labour Law Compliance



Competency: Drafting Notices of Motion, Founding Affidavits, and Heads of Argument. Interpreting the Labour Relations Act (LRA) and Basic Conditions of Employment Act (BCEA).

NotebookLM

Statutory Compliance: Public Safety & Protection

Domestic Violence Act 116 of 1998

Economic Abuse • Physical Abuse
• Domestic Relationship Scope

Protection from Harassment Act 17 of 2011

- ☑ Non-domestic relationships
- ☑ Stalking & Harassment
- ☑ Electronic Communications

POPIA Compliance: Protection of Personal Information in employer records and data privacy

NotebookLM

Career Trajectory & Professional Development

2010 2017	**2010-2017**	**Security & Operations** - Nogada SA, Section One. - Safety Policy & Access Control.
2020 2022	**2020-2022**	**Academic & Technical** - St Peace College (Electrical Cert) - Microsoft Security Training.
2024	**2024-Present**	**Engineering & Assessment** - Schneider Electric Support Cases (#119507102) - Eaton, SARS Physical Security.

Insight: Key Achievement: Successfully transitioned from Security Guarding to Engineering Assessment Expert through rigorous self-directed learning and SAQA-verified qualifications.

NotebookLM

Alignment with SAPS & Public Service Requirements

Target Roles: Detective Officer (Economic Crimes) & Sub-Section Commander.

SAPS Requirement	Candidate Evidence
NQF 6 Qualification	✓ SAQA/TVET Nated Engineering Diplomas & Trade Theory.
Manage CSC Activities & Crime Prevention	✓ Decade of Security Sector operational experience (Shift Command).
Data Integrity on CAS	✓ Advanced VB.NET/Database programming skills for accurate record-keeping.
Vetting & Clean Record	✓ Clean Z83 confirmed. Knowledge of Sexual Offences Act & Child Protection Register.

POPIA Compliance: Protection of Personal Information in employer records and data privacy.

NotebookLM

Strategic Vision: Activism Activism & Social Justice

Organization: Tshingombe CCMA Labour Court / Engineering

Mission: Advancing Economic and Social Rights, Fair Trial Access, and Refugee Rights

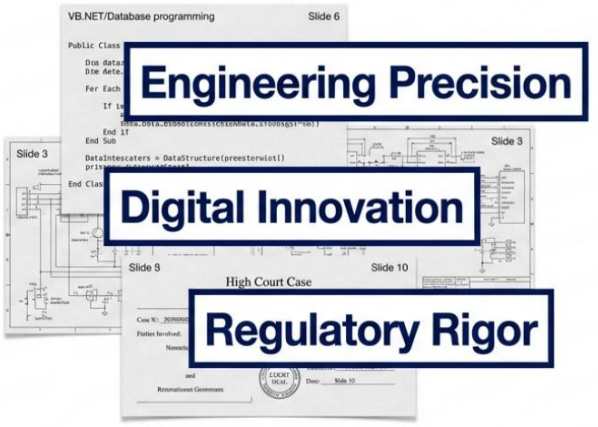
Initiative: Activism Row 2025
Event: Human Rights Festival

Focus: Intersection of Tech & Justice

Leveraging technical engineering skills and deep legal knowledge to fight irregularity, ensuring compliance with Safety Standards (OSHA) and Labour Rights.

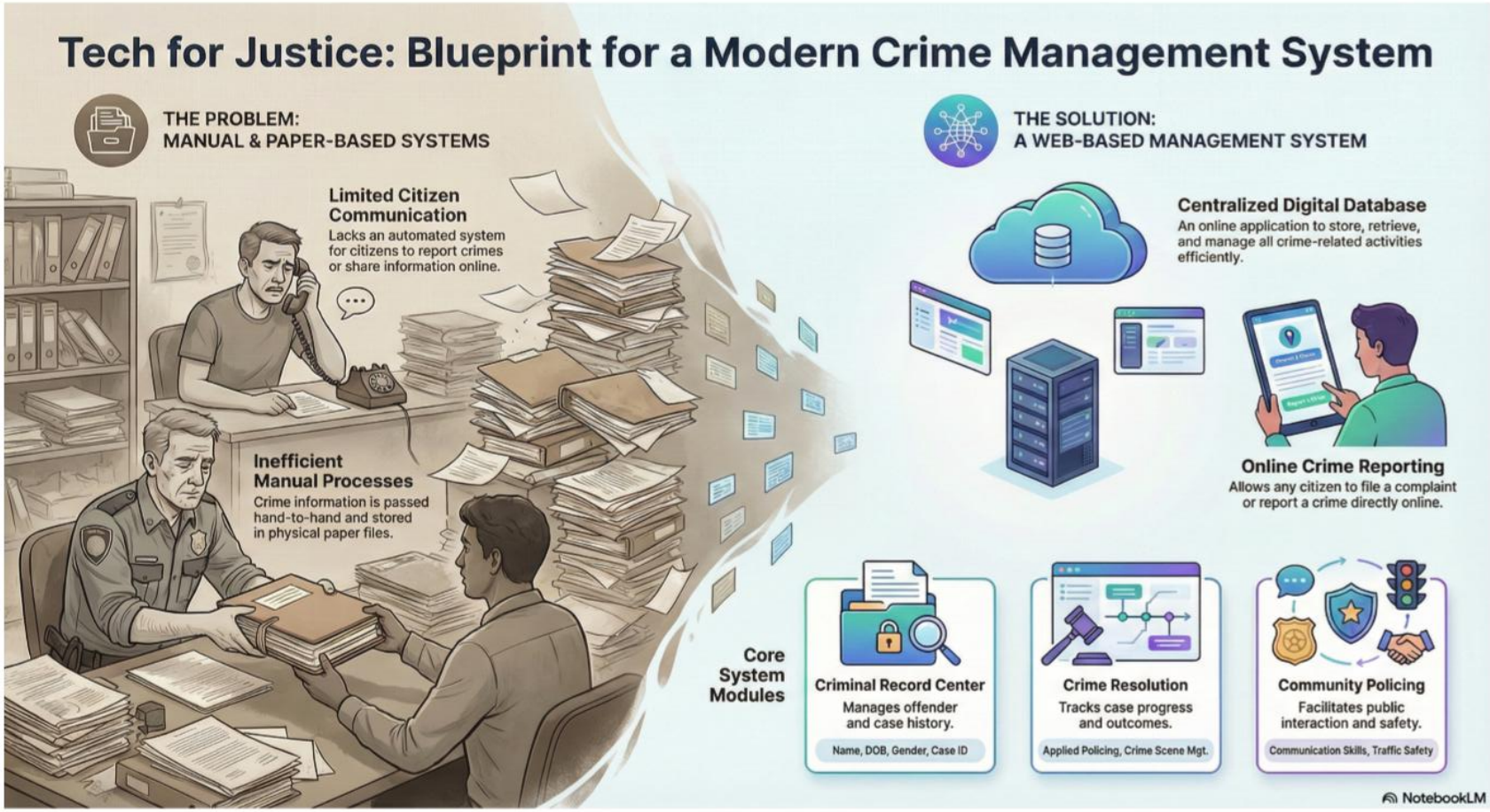
NotebookLM

The Multidisciplinary Advantage

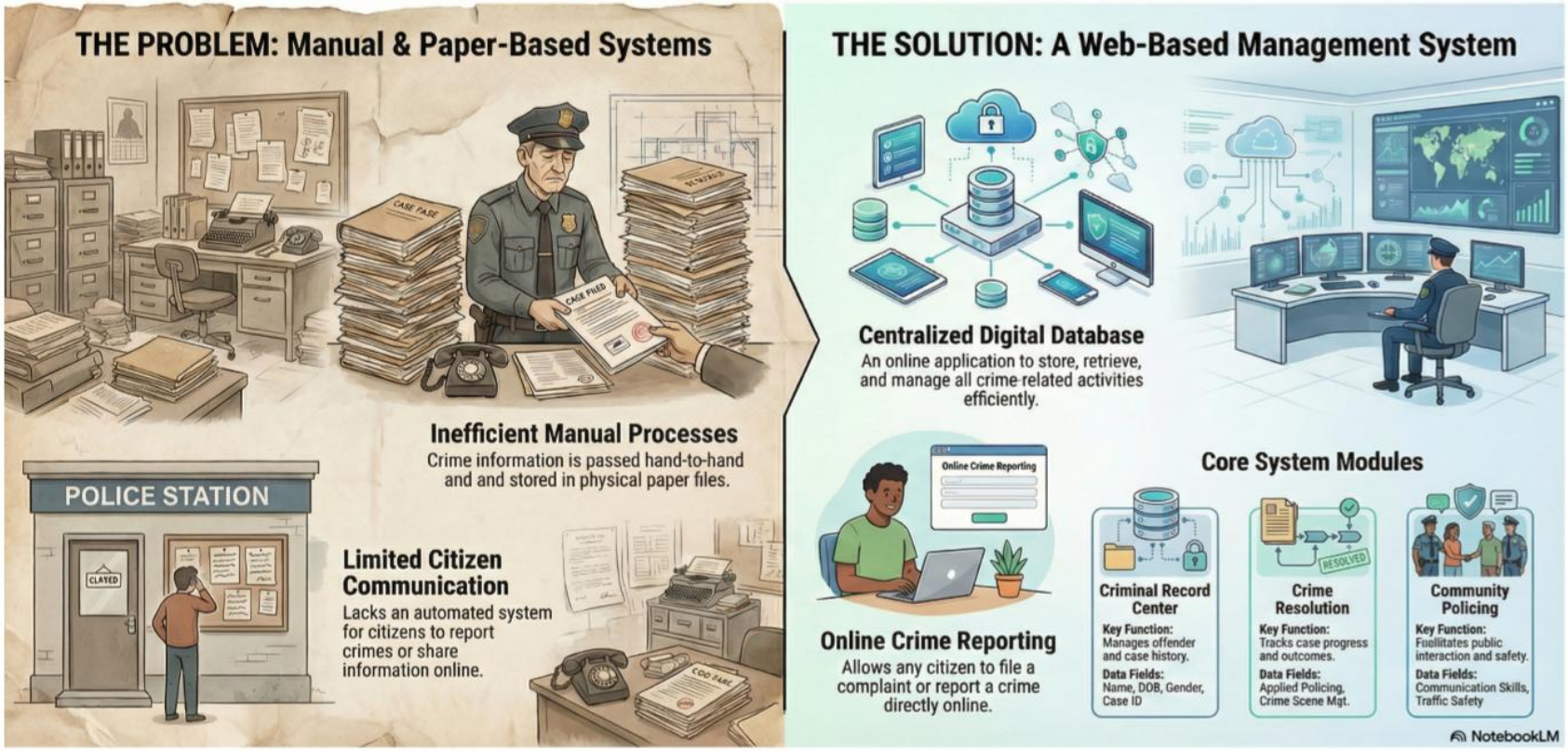


Ready for deployment in specialized security, engineering troubleshooting, and public administration.

NotebookLM


Tech for Justice: Blueprint for a Modern Crime Management System
THE PROBLEM:
MANUAL & PAPER-BASED SYSTEMS
Limited Citizen Communication
Lacks an automated system for citizens to report crimes or share information online.
Inefficient Manual Processes
Crime information is passed hand-to-hand and stored in physical paper files.
THE SOLUTION:
A WEB-BASED MANAGEMENT SYSTEM
Centralized Digital Database
An online application to store, retrieve, and manage all crime-related activities efficiently.
Online Crime Reporting
Allows any citizen to file a complaint or report a crime directly online.
Core System Modules
Criminal Record Center
Manages offender and case history.
Name, DOB, Gender, Case ID
Crime Resolution
Tracks case progress and outcomes.
Applied Policing, Crime Scene Mgt.
Community Policing
Facilitates public interaction and safety.
Communication Skills, Traffic Safety
NotebookLM

TECH FOR JUSTICE: Blueprint for a Modern Crime Management System


THE PROBLEM: Manual & Paper-Based Systems
CASE FILED
Inefficient Manual Processes
Crime information is passed hand-to-hand and and stored in physical paper files.
POLICE STATION
CLAYED
Limited Citizen Communication
Lacks an automated system for citizens to report crimes or share information online.
THE SOLUTION: A Web-Based Management System
Centralized Digital Database
An online application to store, retrieve, and manage all crime-related activities efficiently.
Online Crime Reporting
Online Crime Reporting
Allows any citizen to file a complaint or report a crime directly online.
Core System Modules
Criminal Record Center
Key Function: Manages offender and case history.
Data Fields: Name, DOB, Gender, Case ID
RESOLVED
Crime Resolution
Key Function: Tracks case progress and outcomes.
Data Fields: Applied Policing, Crime Scene Mgt.
Community Policing
Key Function: Fsellitates public interaction and safety.
Data Fields: Communication Skills, Traffic Safety
NotebookLM